THE AMERICAN ENGINEER

MAY-JUNE, 1942
VOLUME 12-No. 3

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THE AMERICAN ENGINEER

VOLUME 12, NUMBER 3 MAY - JUNE, 1942

Published bi-monthly in the interest of the American People and the Engineering Profession by the National Society of Professional Engineers

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Editorial, Advertising and Business Offices, 381 *Fourth Avenue, New York, N. Y.*

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Change of address on Form 3578 should be sent to Circulation Office, National Press Building, Washington, D. C.

Re-entered as second-class matter March 11, 1942, at the post office at New York, N. Y., under the Act of March 3, 1879.

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Neither The American Engineer nor the National Society of Professional Engineers assumes any responsibility for statements or opinions expressed by contributors whose names identify the source of same.

Subscription Rates

$1.00 a year, in advance, to members of the National Society of Professional Engineers and its affiliated Societies, $2.00 a year, in advance, to non-members. Single copies. $.50. Foreign $4 per year.

General DOUGLAS MacARTHUR

Hero of Two Wars

and

The Inspiration of Every American

The Odyssey of A Soldier

Launched From The Corps of Engineers

With the recurrence of the birthday of the American Republic the deeds of Washington, Lincoln and other immortals of the past rise in the memory of the living. Every generation has made its contributions to America's Hall of Fame. The great of this nation have come from every walk of life and many ancestral origins. When the story of these times shall have been written, it will doubtless be replete with heroic and dramatic figures. It is with a thought of gratitude for the existence of such men that the Fourth of July inspires the tribute that so often savors of hero-worship. Would, however, that such adulation were reserved for the noble of spirit. This world might today be a happier place in which to live.

Of all the names that have so far come out of World War II none has so quickly and completely caught the fancy and fervor of America—one might almost dare say, the World—as has that of Douglas MacArthur, Engineer, *Voyageur* and Soldier, who today commands the armies of the Allied Nations in the Far East. Son of a distinguished soldier and beloved mother, reared on the Plains of the Midwest, trained at the most famous of American institutions, practicing engineering in the Philippines and on the Pacific Coast, learning military tactics and defense at first hand in the Russo-Japanese war, serving as aide-de-camp to one of America's most famous Presidents, acting as instructor in the Army Mounted Service Schools, participating in the Vera Cruz Expedition, aiding in the formation of General Staff policies, commanding a Division in France, making light of having been twice wounded, decorated for valor and service by a dozen nations of Europe as well as by his native land, directing as its President the American Olympic Athletic Expedition to Holland, in charge of and training the American Army in the Philippines, honored by numerous degrees from colleges and universities, formulating the policies of the United States Army as its Chief of Staff, appealing to the Nation and to Congress to arm against possible aggression, modernizing the Nation's forces, traversing Europe and reporting an impending cataclysm—World War II, returning to the Philippines to prepare for their defense against Japan, sensing an impending attack, racing against time to be ready and conferring with experts from other far east countries, inspiring the native population with conviction and courage, again leading his beloved troops in an epic of war and valor that is unsurpassed since Thermopyle, repulsing the Japanese invader although outnumbered perhaps ten to one, establishing for himself and his American and Filipino armies a fame that has gone around the world, he was called at the age of 62 to be the Commander of the Armies in the Far East of the United Nations with headquarters in down-under Australia, where—after a dramatic trip from Bataan—he now directs the strategy and carries the hopes of many millions of Occidentals and Orientals alike. His work is not yet done but he has already achieved honor and fame that will live as long as record or memory shall run.

Whether as observer in the Orient, as military aide to President Theodore Roosevelt, as Commander of the famous Rainbow Division in France, as Chief of Staff of the U. S. Army or as Commanding General in charge of allied forces in the Far East sector of the World War he combined courage with intelligence and met contingencies with the daring of a soldier and the technique of an engineer. His herculean efforts to prepare for the defense of the Philippines were those of an engineer who had to work against time to meet an oncoming avalanche. The defense of Bataan, and especially Corregidor, was an engineering achievement compatible and comparable with its distinction as a military feat.

Graduate of the Engineer School of Application, Acting Chief Engineer officer of the Pacific Division, heroic combat leader of as fine a fighting unit as this nation has ever known, Superintendent of the United States Military Academy, Chief of the U. S. Army, Director of the National Defense of the Philippine Commonwealth (a great engineering task in this day of mechanized warfare) Douglas MacArthur the Engineer was ever an immeasurable asset to General MacArthur the soldier. As he has turned to his God for spiritual guidance in his hour of trial so, too, has he called upon his background as an engineer to overcome his material obstacles.

In days gone by Engineering societies outbid themselves in an endeavor to honor another distinguished citizen who although not originally trained as an engineer had achieved worldwide recognition as a humanitarian. Strange that only as a military engineer has recognition been accorded to or membership been extended to Douglas MacArthur, gentleman, soldier, scholar and graduate engineer.

Today when all lines of distinctive endeavor should be submerged in the welter of common effort it may somewhat transgress the propriety of the moment to stress the role of a particular calling; however one cannot point to so great a citizen and soldier and not say with some degree of pride "There also goes an Engineer." Still journeying where'er duty beckons, may fortune return him safely to the shores of his native land.

HIS EXCELLENCY, DR. MANUEL PRADO
PRESIDENT OF PERU
Addresses the New York State Society — May 16th

Dr. Prado's address was broadcast in Spanish over all short wave stations. The broadcasts were arranged by the Co-ordinator of Inter-American Affairs. The translation here published was made by the U. S. Government.

WHEN I received the kind invitation of this justly famous organization of American Engineers to spend a few minutes with my fellow engineers, I did not hesitate to accept it, and here I am amongst you. Just a few minutes ago I received your warm reception and I have just told you my thoughts and reactions to the tremendous work you are doing in this country to realize the defense of the supreme ideal of liberty and democracy.

I thought that your kind welcome had been sufficiently acknowledged with the brief talk I made to you, but you have asked me to continue with a few words in Spanish that will reach all our brothers of Latin America, and I have not hesitated to accept.

Friends of North America—friends of South and Central America—today far away from us, but united in spirit and with the proposition of making of America a united nation—grand and happy, with the efforts of all dedicated to the supreme ideal of progress, work, and the welfare of our peoples. It has been our lot to live in an era of enormous responsibility, of great efforts, of danger, and of shadow. But peoples who have the power of a civilization formed and constructed by science, industry, and culture, are the ones destined to save the world from the enormous tragedy which today shakes us; and in those nations prepared beforehand by its industry, the United States is one which stands out in front of this titanic struggle in which all those that wish to impose on earth force and despotism must be destroyed . . . of this I am sure.

President-Elect James F. Fairman (at left) and President Frederick Zurmuhlen (right) with President Prado and Engr. Frederick Mardus.

But they shall never destroy this nation. Your struggle united with ours and America's, shall write in the history of the world the greatest page telling of uniting the Allied nations together to defend the saintly cause of liberty of men and countries.

My fellow engineers of this great country—I have had the immense satisfaction of visiting the extraordinary production centers of various of your states . . . of Detroit, of Buffalo, of Boston, and now of New York. These, like the others of this great nation, are putting forth all that science and industry has been able to accomplish in this fruitful land of America.

And what yesterday was the silent effort in favor of civilization and of the great causes of humanity, today destiny has willed that this gigantic struggle of this noble country be transformed in this marvelous industrial machinery which will give, I am sure, final victory not only to our America, but to the entire world.

In the name of your fellow engineers of Peru, founded upon the same ideals, I greet you fraternally, and I tell you that in my country we are collaborating entirely with you and we are all on the way to obtain the triumph which will result in the liberation of the world, and in the hope of better days soon to come for humanity.

Manuel Prado, President of Peru (second from left), waves acknowledgement of applause after addressing the 15th annual convention of the New York State Society. With him are (left to right) Past Pres. Arthur V. Sheridan, Exec. Sec. Edward Larson, Past Pres. David B. Steinman, Past Pres. John C. Reidel of U.S.P.E. and Pres. F. H. Zurmuhlen, New York

WARS AND WEAPONS

MUNITIONS — MACHINES — MANOEUVRES

Have ever decided the Fate of Armies

What the Engineer Can Do To Bring Victory

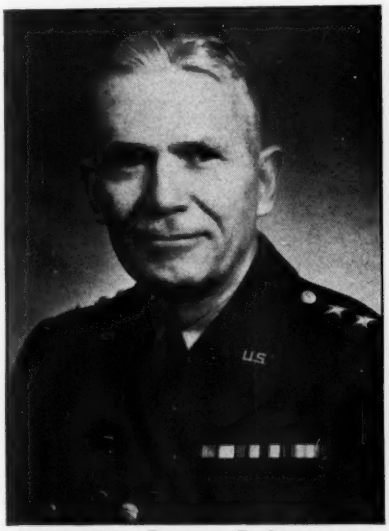
By

Lieutenant General Brehon B. Somervell, U. S. A.

The following address was delivered at the All-Engineers Dinner held at the Mayflower Hotel in Washington, D. C., on May 18, 1942, by Lieutenant General Brehon B. Somervell, Commanding General, Services of Supply, War Department. An Engineer and administrator, General Somervell is a most distinguished member of the Engineering Profession as well as a ranking soldier and leader of men.

Someone has called this a war of gadgets. Someone else says it's an engineers' war. It's a war of production, of transportation, a war in the sky, a war on wheels, a civilians' war. Let's not quarrel about nomenclature. Call it what you want. If four-motored bombers and thirty-ton tanks are gadgets, then it's a gadget war. Engineers, scientists, shop laborers, air raid wardens all have their highly important jobs to do.

The fact remains, this war, like all others, is a soldiers' war. The basic strategy employed today is the same strategy that Philip of Macedon used on the Plains of Thessaly twenty centuries ago. His Phalanx was a striking force armed with every known weapon. It was armored with breastplate and casque. It depended for success on superior manpower and mobility, superior weapons and supply, and upon superior discipline. It executed commands faster than its enemies; it had more catapults and spears, more men in the back areas bringing up supplies. It was a new idea.



LIEUT. GEN. BREHON B. SOMERVELL

It used what today we call the "scissors movement" to cup up its foes. It took sharp advantage of surprise. It introduced terror as a weapon, terror inspired by a vast, moving, shouting army with banners. It laid waste to cities by fire. The Greeks had a word for it and that word wasn't "Blitzkrieg." Hitler and the Japs have no copyright on military genius. Their sole advantage has been discipline and a head start. While we pursued our peaceful vocations, while we explored new paths of peace, while we searched new frontiers in art and science, while we sought new freedoms, new hopes, new comforts for mankind, they were brewing their kettle of violence. They have won the initial stages of this war not because they are more skilful, not because they are more clever, not because they are more courageous. They won because they had been preparing for generations. But it's not the preliminary battles that count . . . the last battle is the one that is written down in history! When we win that last battle it will be because we have organized our soldiers and our supplies and our civilians in greater numbers and with greater efficiency than our enemies. If we win, it will be because we have achieved discipline on the home front as well as on the battle front.

Against Hitler's and Japan's decades of preparation we have been in this war a few short months. We've moved fast and far; we've shaken off our cloak of apathy; we've girded on sharp weapons of anger and determination and unity; we have fallen into step . . . one hundred and forty million free men and women marching toward one objective and with a single purpose. Five months is only a little while. But we've gone a long way. The road ahead of us is dim with the dust of battles still unfought. How long that road is no one can know. But it's shorter than it would have been had not our enemies misjudged us and themselves.

When Hitler put this war on wheels he ran it straight down our alley. When he hitched his chariot to an internal combustion engine he opened up a new battle front . . . a front that we know well. It's called Detroit. When Hitler took this war into the skies he rose into our own element. We'll meet him there on even terms. We're meeting him there already. From Brest to Berlin he feels our strength and as the days of summer lengthen he'll feel it again and yet again without respite. When Hitler brought civilian populations into the war as innocent victims, he unthinkingly brought in the German people.

(*Continued on Page* 28)

THE ENGINEER IN THE ARMED FORCES

HIS ROLE IN WORLD WARS I & II

ILLUSTRATES INCREASED SPECIALIZATION

By

Colonel George F. Lewis

U. S. Engineer Corps

NEVER before in the history of America has this nation owed as much as it does today to the professional engineer, whether in military or civilian capacity. It is no longer novel to assert that this is an "engineers' war", but it is everlastingly true. At every stage of the development of our war effort, from blueprint to battle-front, from factories to fox-holes, the American Engineer is a key factor.

However, the writer does not desire to eulogize or glorify the Engineer at the expense of any other individual worker or group. He enjoys no priority on either patriotism or efficiency. Nevertheless, one is happy to have the opportunity of doing the Engineer simple justice, by describing in factual terms his contribution toward making the United States ready *for* war and invincible *in* war. Not only throughout all the activities of the Corps of Engineers in both construction and combat duty are we relying upon engineer services of every conceivable nature for the success of our drive for victory, but in the particular branch with which the writer is identified we are constantly calling upon members of engineering organizations for sorely-needed assistance. As former President of one of the largest groups of its kind in the nation this narrator knows full well the engineers' achievements and capabilities and his willingness to give any aid or make any sacrifices necessary to help win this struggle.

With world-wide war upon us, we find ourselves utilizing all the varied services and talents of the engineer in the armed forces. On the home front he is helping to carry out another titanic campaign of building and production: on the battlefield, he is proving his worth in actual conflict. It is of this engineer that one would speak first. For all the plans, all the production and all the energies of the millions at home, are concentrated on the task of supplying him and his comrades in arms with the weapons and equipment to use against the enemy in mortal combat.

Modern methods of warfare, popularly expressed in the term "blitzkrieg," have brought great changes to the military branch of the Corps of Engineers, as it has to all the other units of our armed forces. In mere numbers alone, our combat forces have expanded at a rate exceeded only by that of the Air Force. But we have today more than merely a larger Corps; it is, in effect, a new Corps, new in equipment, in means of transportation, in technique and in organization. We have, indeed, about 15 different types of engineer units today, each completely re-designed, in the light of lessons learned from the campaigns abroad and from maneuvers at home. Fundamentally, the purpose of the streamlined Engineers of 1942 is the same as that of their brothers of the past,—to make the going easier for our own troops and tougher for the enemy. However, modern mechanized warfare has introduced new methods and machines which have made the military Engineer more of a specialist than ever before.

The contrast between the Engineer troops of 1918, for instance, and those of today is arresting. As a fledgling lieutenant, but recently out of West Point, the writer had some personal, firsthand experience during World War No. 1, with the organization and methods employed by the engineers in the theater of operations. Now, as a constructing and operating engineer, after a lapse of nearly a quarter of a century, he is painfully aware of the fact that he would have to learn a large part of his trade all over again if he were back at the front line.

In 1918 there was a "combat regiment" in every infantry division. That regiment, 2000 strong, equipped with horses and mules, was a rather cumbersome organization, marching on foot and working mainly with basic hand tools. One does not wish to detract from the great record it established in World War No. I. It conformed to the pattern of the time, and distinguished itself on many a field and in many an engagement, but it was far

different from the small compact, mobile, hard-hitting engineer units today. As now organized, the modern engineer battalion of the United States Army contains but 750 men. It is completely mechanized, heavily armed, and equipped with many types of power tools. As General Reybold recently described it, "It is bliztkrieg personified." It is the engineers' contribution to the Army's ultra-modern, highly maneuverable Triangular Division.

The engineers who work with the Air Force are provided with special training and special equipment. The number and variety of the tools they carry for performing emergency services will surprise you. Altogether, the aviation battalion has as many as 220 pieces of heavy equipment and 146 vehicles. For the purpose of doing pioneer work, where speed is absolutely essential, they are provided with such articles as motorized air compressors, diesel road-graders, concrete mixers, motorized well-drilling sets, heavy disc-plows and tractors, and other articles which emphasize the reliance of the modern Army upon the use of machines. American inventive genius has contributed portable steel runways which can be laid down in unbelievably short time and provide safe and adequate landing fields. It might be mentioned, parenthetically, that when these engineers have a job to perform, they are usually short on both time and material, and they have no blueprints to guide them in laying out their work. This, of course, brings us to the crux of the whole situation, namely, that no matter how many machines we have nor how efficient they may be, they are useless unless they are placed in the hands of trained and competent personnel.

The experiences of the Engineers to date, in all theaters of operation, in all armies, have demonstrated the increased versatility and importance of their functions under the tremendously increased tempo of total warfare. The Engineers are at once, builders and destroyers, experts in construction and in demolition, workers on both land and water. During four years of constant war, China has given the world a graphic example of the use of the "scorched earth" policy. Russia adopted it with spectacular effect when Engineers blew up the Dneiper River Dam in the face of the Nazi invaders, one of the largest and most successful demolition operations in the history of warfare. More recently, as perhaps you have read, Russian Engineer forces diverted the course of an entire stream for the purpose of engulfing enemy positions.

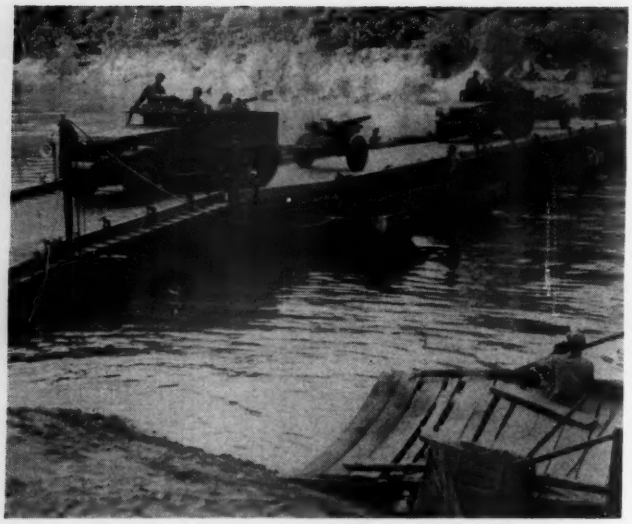
The other side of the picture is presented by the new and vital task assigned our own Engineer troops in building the pioneer road which will connect Alaska with the United States. Establishing bridgeheads under fire, and improvising emergency airfields in virgin territory; forcing roads through the jungle; throwing up defenses and laying mines; devising camouflage screens and building ponton bridges; storming permanent fortifications with all the devices of modern war—these are all in the day's work for the Combat Engineer. He is a Jack of all trades in the primary trade of making war. All honor to him; when our final victory is achieved it will be due in great measure to his courage, initiative and ingenuity.

Activities of the Corps of Engineers on the home front embraces the emergency Army building program under the immediate supervision of Major General Thomas M. Robins, Assistant Chief of Engineers in charge of the Construction Division, which now approaches the tremendous volume of six billion dollars. More than half of this is already in place—completed. In addition to the normal work of the Corps, it is now responsible for the construction of all camps, airfields, storage depots, post and general hospitals, recreational areas, harbor defenses, assembly plants, manufacturing plants and various other installations in this country and at all other places where such construction is needed. The work varies from a small addition to a tent camp with its simple framed tent supports, to the most modern and completely equipped manufacturing plants covering acres of land with single structure; and the locations vary from the foothills of the ice-capped mountains of Alaska to the heart of the tropical jungles. We are building at locations 10,000 feet above sea level and in the arid hot deserts, from next door to all the conveniences of our modern big cities to the most inaccessible outposts.

This brings me to the subject closest to the writer's heart. When General Somervell asked him to take charge of the Repairs and Utilities Branch of the Construction Division, he left a construction job in Haiti. That was about the first of February, 1941, just as the first of the new camps was being completed. Hence, he has had the privilege of creating the field organization for the maintenance and repair of all this new construction and for the operation of the utilities connected with it. We take over the maintenance of any construction as soon as it is occupied by troops in any degree, and we maintain all of the many types of construction except the manufacturing and assembly plants and certain special storage and laboratory facilities.

The maintenance and operation of these facilities includes far more than the continuing maintenance of completed facilities. It also includes the completion of details of construction which were omitted because of premature occupation by troops. It includes minor adaption of the standardized designs of building to the

Engineers ferrying Jeeps on improvised boats made up of Assault Boats and Railroad Equipment



17th Engineers and 41st Inf. of the 2nd Armored Division in maneuvres at the Texas-Louisiana border. Artillery crossing pontoon bridge

particular area or location or needs of the occupying troops. In includes the modification of utilities to meet increased troop occupancy or unanticipated conditions developed by use. There is also involved the problem at new camps of organizing the entire maintenance staff from scratch and of procuring the initial stock of necessary material and parts.

Some of the individual problems may be enumerated as indicating the scope of the work and the methods used in handling it.

1. *Grounds.* Erosion control is a major problem, thanks to newly-graded areas and lack of time for planting. With the very constructive help of the Soil Conservation Service, plus the use of a hundred or more C.C.C. companies, we are pushing a program of planting and drainage that should gradually control this difficulty.

2. *Roads.* The incessant pounding of the thousands of heavily loaded military vehicles makes the maintenance of roads a major effort, and many deficiencies in provisions for culverts, ditches and shoulders must be remedied.

3. *Runways.* The increasing weight of bombers is causing failures in our older runways and we have yet to learn the full extent of our runway work. Complete snow removal from runways over a mile long and 300 feet wide has led to some interesting developments in methods and equipment.

4. *Space Heating.* Both in the high horsepower central plants and with the individual barracks heaters we find plenty to keep our staff of field combustion engineers busy. Fuel has been adapted to equipment and operators are being instructed but the work yet to do is infinite. In cooperation with the Weather Bureau we have developed degree-day statistics for ten different locations and for all types of structures. This will enable us to compute all fuel requirements on the basis of 1000 sq. ft. of floor area per degree-day. In our specifications for fuel we keep the most careful balance between post needs, equipment and available fuel fields.

5. *Supplementary Housing.* A new and interesting problem of hotel management and grounds upkeep has dropped upon us at Miami, Florida, where the Army has already rented nearly 100 hotels for housing. We also determine the need for civilian war housing in connection with Army, process requests for this housing with the Federal Housing agencies, and manage the housing on the reservations.

7. *Sewage Disposal.* The loading of disposal plants beyond their capacity limits is a problem which repeatedly comes up for solution. The nullifying effect of laundry waste and excess grease upon the treatment process has had to be met. After exhaustive research and experimentation adequate grease traps have been installed and a laundry waste treatment process developed.

8. *Water Supply.* Over-occupation of camps, added to dropping water tables, has brought up many problems of additional water supply and conservation of the existing supply. These have been met by curtailing the wastage of water with automatic flush valves, by conserving treated water through the use of surface water for vehicle washing, by the provision of trained technicians with the most complete equipment for detecting and locating leaks and by the development of additional sources.

9. *Waste Disposal.* For the disposal of garbage we use both contract and incineration methods. We are now planning the more extensive use of sanitary fill for both garbage and waste disposal.

10. *Fire Protection.* Beside the problem of determining the need for fire equipment at each location we had to raise the industrial production of equipment to many times its normal amount. We have also had to employ and train the fire department personnel at all these locations. In this work we have received the invaluable aid of two officials of the National Board of Fire Underwriters who direct from our office and on our work a field force of 85 technicians operating from 50 locations. This without cost to the government (*Continued on page* 28)

6th Engineers bridging the Marne, at Mezy, near Chateau Thierry, France, July 24, 1918

THE ENGINEER COMES INTO HIS OWN

HIS RECOGNITION—PRESENT AND FUTURE

WITH COMMENTS ON PROFESSIONAL TRENDS

By

Professor C. C. Knipmeyer

Rose Polytechnic Institute

In this article, which is in substance an address delivered before the National Society of Professional Engineers at its Atlantic City Convention, Professor Knipmeyer refers briefly to the past accomplishments of engineering and to the more recent developments of its varied techniques and ventures the opinion that through his professional societies the engineer will shortly come into his own.

ENGINEERING is older than the pyramids. It is almost as old as man. Its need must have appeared in the functioning of the very beginnings of the human mind. It is manifested in the scant evidences of earliest mankind. In the dawn period of human life engineering of the most elementary sort must have been recognized as necessary for comfort and well-being. It has always been so closely linked with human progress as to be a true measure of that progress. A few years ago President Roosevelt said "There can be little doubt that in many ways the story of bridge building is the story of civilization". He was thinking only of bridges. With how much greater emphasis could the statement have been made of engineering as a whole. Advancement in civilization was fast or slow, depending on progress in engineering science. During long periods of no engineering progress, civilization, too, made no progress. In recent times, engineering progress has been too rapid for complete and proper human adaptation and there has been advocation of a science holiday. Some thought science gains should have been consolidated and coordinated before further advancement in science be allowed. Unfortunately, in some countries, instead, increased scientific knowledge was vigorously applied to preparation for war.

PROFESSOR C. C. KNIPMEYER
President, National Council State Boards of Engineering Examiners;
Head, Electrical Engineering Department, Rose Polytechnic Institute.
Major, Engineers Reserve, U. S. Army.

The evidence has steadily shown that engineers have never sought public acclaim. The earnest study of Nature's laws and the deep respect for them, the essentially honest approach to all problems, the humbling allure of glimpses into unexplored fields of science—all these develop respect, honesty, modesty and even humility of spirit that are incompatible with boastfulness and selfish aggression in public relations. The striking contrast between the engineer who ministers to the needs of the public, saying nothing about it, and the politician and would-be statesman who really ministers not at all, but loudly shouts his unselfish and efficient devotion to the public weal—these offer an interesting study of comparative human behavior.

A world famous writer, observing with keen appreciation the service of the engineer to humanity, wrote most beautifully about it, taking his cue from the last four verses of the tenth chapter of St. Luke, which read as follows:

> "Now it came to pass, as they went, that he entered into a certain village; and a certain woman named Martha received him into her house. And she had a sister called Mary which also sat at Jesus' feet, and heard his word. But Martha was cumbered about much serving and came to him and said, Lord dost thou not care that my sister hath left me to serve alone? bid her therefore, that she help me. And Jesus answered and said unto her. Martha, Martha, thou art careful and troubled about many things. But one thing is needful; and Mary hath chosen that good part, which shall not be taken away from her."

This famous writer pictured all humanity as sons of Mary except engineers who are the sons of Martha, the practical woman who put service to others above her own salvation. In most impressive and beautiful style he presented the thought that it shall always be the sacred and wholesome duty of the sons of Martha to serve and pro-

tect the sons of Mary. This he has always done effectively, efficiently, modestly and to his utmost ability. This he will always do.

It is typical of the engineer that his first thoughts are on the job he has to do. He realizes that he must do it in the best way, that he must honor Nature's laws, that he must constantly learn more about these laws and their best application. He knows that these laws cannot be twisted or altered, so he is trained in honesty and respect. He tends to commune with Nature rather than seek social, business or political advantage. His ethics become professionally restrictive and severe. It is natural, then, that his professional societies have been, for the most part, limited to the purely technical aspects of engineering and science. He is likely to frown on any act of his group taken to enhance the position of his profession before the public. He may see such an act as selfish, unethical and unworthy of the highest ideals of his profession.

It is difficult for this servant of mankind to see that a deserved and proper public recognition would strengthen his position for rendering greater service. He has not been willing to make his light to shine. And herein lies a tragedy today.

We are at war. It is a war in which science and engineering must dominate. For years the enemy, realizing this, has applied engineering to the utmost degree and has put engineers in high places of responsibility. The enemy knew that none could face facts so realistically, nor analyze so accurately, as engineers; none could so well envisage needs of offense and defense, none could handle problems of design, production and transportation so well as engineers. The same realization is coming slowly here. Columnists and others are pointing out this fact. Only this week one widely read commentator stated this:

> "But in the United States the politician doesn't want the advice of competent engineers. So we stagger and bumble along, wasting fantastic sums of money, getting what we ought to have 'too late' and in quantities 'too little.'
>
> "The current issue of Fortune magazine suggests that pure science, development engineering and managerial talent must be placed under a technological high command in Washington before the United States can marshal enough strength for victory.
>
> "It goes on to point out that in Germany and Japan 'modern technology' has been welded solidly to the iron hand of a demoniac politics to form an integrated weapon of destructive power that the world has never before seen. Nothing less than the fitting of this total instrument to the hand of democracy can beat the evil to earth in time."

The engineer perhaps would not state the case so bluntly, but he has long been aware of the condition. From newsprint emphasis, public entertainers were more important in the war effort than engineers who, in the minds of many people, are merely workers in overalls with level-rod, oil can, or monkey wrench.

This is all in some degree the fault of engineers themselves. The public has not been unfriendly to the engineer. The public did not know. There was no one to tell them. There was no one officially authorized to present the case of the several hundred thousand engineers, unorganized and largely individualistic.

But now there is unmistakable evidence that better conditions are ahead. Greater efficiency and speed in the war program are being manifested and the engineer's place in the war effort is being recognized. These are the urgent necessities.

As for the engineers themselves, in the peace to come there will be an era of opportunity and responsibility for which they will be prepared. That preparation is clearly indicated by certain very definite trends.

First: Registration laws have now been enacted in all but two states, which two states will soon be included. The administration of these laws will steadily demand greater thoroughness and higher standards of competence. The "quacks" in engineering will gradually be forced out of practice by the pressure of law enforcement supported by the great body of registered engineers and the good, non-registered engineers will see the merits as well as the necessity of registration.

Second: The founder societies of all branches of engineering, while active in technical developments and matters of ethics, are swinging rapidly to a realization of the force of the registration law in benefit to the public and to the profession. The leaders in these societies are recognizing more and more vividly that ethics and ideals, as well as standards of professional competence, require that moral suasion be supported by force of law and that the public deserves the enforcement of registration to discriminate between the fit and the unfit.

Third: The uplifting influences of the Society for the Promotion of Engineering Education and the Engineer's Council for Professional Development are being increasingly manifested. Growing cooperation between these groups and the state registration boards in matters of educational standards is particularly gratifying.

And, finally, there is reason to believe that the public relations for the engineer are being ably handled by the National and State Societies of Professional Engineers.

Emphatically true it is that in this war and in the reconstruction era to follow, the public will count on the engineer with warranted assurance and we shall see that "The Engineer Comes Into His Own."

Editorial Comment—That each of the agencies or organizations referred to by Professor Knipmeyer is active in promoting certain objections is obvious from the reports that have been made. That there is a definite overlapping of endeavor is also obvious. The accomplishment of the most important objectives, namely, the public and professional benefits that are envisioned in the professional society movement suggests the need for more definite collaboration and perhaps reduction of duplicated effort. Unless the activities of the several engineering agencies which professedly seek the promotion of such benefits are brought into some common focus there will inevitably arise factional disagreements that can only confuse the public and injure the engineer. As implied in the foregoing article the future of the engineer depends largely on the collaboration of engineering groups.

IN PEACE AND WAR

THE PAN AMERICAN HIGHWAY

WILL SERVE THE WESTERN HEMISPHERE

Social and Economic Exchanges
Vital to North and South America
Says

Engineer Charles Upham — Director
American Road Builders' Association

WHEN the western hemisphere became involved in the second World War, the Pan American highway immediately assumed new importance. From a strictly military standpoint it is obviously necessary to have a means of highway transportation from this country to the Panama Canal. Its effect on the development of commerce and unified action against attack between the countries through which it traverses are extremely important factors. The section completed and opened to traffic several years ago between Laredo, Texas and Mexico City has already done more to eliminate misunderstandings and cement friendly relations between these two countries than any other factor.

Starting at Laredo, the highway extends for a distance of 3,200 miles to the Panama Canal. From this point it extends through South America for 6,000 miles to Buenos Aires, and thence 1,900 miles to Rio de Janeiro. The highway connects the capitals of seventeen Latin American countries.

About two-thirds of the mileage in South America may be travelled at all seasons of the year, and 2,000 miles of this is paved. About three-fifths of the mileage in Central America is all-weather construction, the largest stretch being from Laredo to 80 miles beyond Mexico City, a distance of 830 miles. The rest of the improvement exists in shorter sections which are not continuous.

The uncompleted portion in Mexico is nearly 700 miles long. The 300 mile section in Guatemala has been completed and there are only ten miles left to build in El Salvador. There are 60 miles incomplete in Honduras; 150 miles in Nicaragua; 300 miles in Costa Rica and 60 miles in Panama in the section lying between Costa Rica and Panama City, making a total of 1,280 miles uncompleted.

From Panama City to the Colombian border, a distance of 224 miles, there are only 38 miles of completed highway, the remaining 187 miles, recently travelled on foot for the first time by a North Carolina Professor, established two facts, one being that a highway could be built through the difficult terrain and second that the natives were not adverse to such a project.

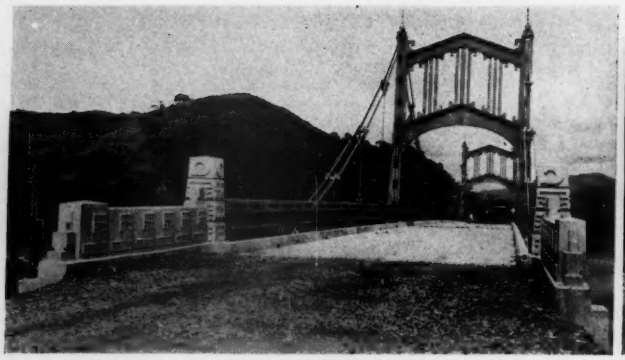
Charles Upham, who is the Engineer-Director of the American Road Builders' Association has a wide field of acquaintance in the affairs of government as well as in highway construction. In this article he briefs the work that has been done, as well as that which remains to be done, on the Pan-American Highway. He points to its value — for military purposes, for the transportation of needed raw products to the United States and for the exchange of commerce between the United States and Latin America.

The idea of a highway to connect the various Central and South American countries originated in 1924. From a rather slow and visionary start a connected highway is sure to become a reality in due course. The annual construction program amounts to about 600 miles a year which figure will be increased as fast as funds are made available.

The cost of financing the uncompleted portions of the highway from Mexico City to the Panama Canal was estimated at $78,000,000 a few years ago. Loans have been made by the Export-Import Bank during the past year to Panama, Costa Rica and Nicaragua. Considerable work is being done in these countries at the present time by this method of financing.

Much of the highway construction through Central and South America has involved difficult engineering problems. A large portion of the terrain is mountainous. In many sections it is difficult to transport materials and equipment to the road or bridge site. Cordial relations between all the nations to the south have been greatly stimulated by the close association of the engineers from these countries with those of this country in working out the construction problems involved.

Late last year arrangements were made for the Export-



Bridge construction in Guatemala

Mamuligue Pass on Laredo-Mexico City Highway

Import Bank to establish credits up to $30,000,000 for the construction of roads in Mexico. This measure was deemed advisable due to the demand for more adequate transportation for American tourist and business travellers and also as vitally important for the hemisphere defense. An appropriation of $20,000,000 with the same objectives has been made available by this government to the other Central American countries through which the Pan American Highway passes.

In recommending the expenditure of these funds, the Secretary of State listed in detail the reasons why the action was desirable.

The defense value at the time the legislation was passed was not the prime motivating factor but has since become vitally important. The Caribbean area, the Panama Canal and the West Coast of the Isthmus are all in the defense area, and highway connections between the principal cities and the coast ports would prove to be of great strategic value.

Imports from South and Central America totalled more than $1,000,000,000 in 1941. With the completion of the Pan American highway this figure would be considerably increased. This country depends on Central and South America for many commodities, such as bauxite, bananas, castor beans, chicle and coffee. As the war causes more and more shortages in domestic critical materials, this country will require increasing amounts of raw products from the southern portion of the hemisphere. The Pan American Highway will be very helpful in relieving a transportation shortage.

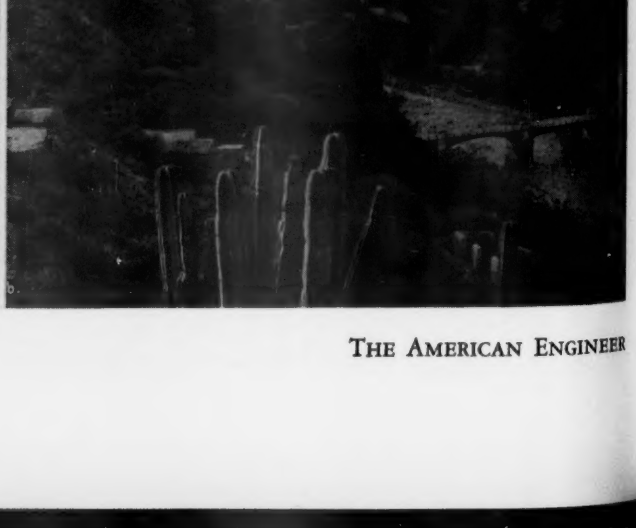
In cooperating with the Central American countries in highway construction, the government has given careful consideration to many economic factors. Much of the area is rich in natural resources which due to lack of highways cannot be reached. The road construction activity would in itself give employment and start new enterprises as new country is removed from isolation.

The estimated $80,000,000 construction cost will have a substantial economic effect. Along with this, it is estimated that providing hotels, restaurants, gasoline stations, garages and other enterprises necessary to highway transport would result in the expenditure of $200,000,000 more.

The construction and maintenance of the highway would result in the purchase of large amounts of road building machinery from this country. As the highway is extended, the demand for motor vehicles, parts and accessories will increase, resulting in greater export business. While these items are more in the nature of long range effects, they will play an important part in the economics of the countries involved after the war.

Central Highway of Panama-Inter-American Route

Bridge on the Laredo-Mexico City Highway



SALVAGE AND SCRAP

WAR PRODUCTION BOARD EFFORTS

TO SPEED UP WAR PROGRAM

by

Hon. George Sutherland

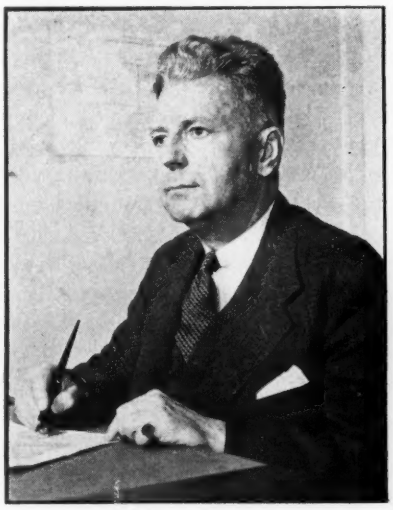
Utility Coordinator

Bureau of Conservation—WPB

The importance of the conservation and reclamation of materials vital to the war effort is stressed by the War Production Board to speed up the Salvage and Collaboration is asked of and assistance offered to all. author who outlines the organization and efforts of the Scrap Program. Needs and results to date are indicated.

THERE is a war on! Some day it will be a shooting war. Right now it is a war of production, and there being no production without materials, it is a war of materials.

In 1941, production of all products in the United States was increased about 50% because in that year we were in the defense era. Twenty-one percent of production went to war materials. In 1942 production will be doubled and 53% of the production will go into war materials. That means that there is practically nothing left for anything except war production and that conservation is a paramount issue.



HON. GEORGE SUTHERLAND
Industrial Section
War Production Board

Last summer the Office of Production Management, as it was then known, recognized this necessity for the conservation of materials vital to the defense program and set up an official Bureau of Industrial Conservation. Obviously, materials used over again would save not only raw materials but also the labor and production facilities necessary to produce them. It was also apparent that scrap materials, ferrous and non-ferrous metals, paper, rags, and rubber would become an important element in the production of guns, ammunition, tanks, ships and airplanes.

The importance of scrap materials became more obvious as production statistics became available. During the year 1941, 50% of all the steel produced came from scrap, 1/3 of the copper, 33% of the zinc, 1/5 of the lead and 1/6 of the rubber. This was during a year when only 21% of our total production was engaged in defense operations. It is an impressive picture of the value of scrap in industry.

Let us picture it in another way. In the United States, there are 125,000 junk men and 14,000 dealers at work on the job of collecting and preparing scrap. In one year they accumulated 70,000,000 pounds of scrap aluminum which is sufficient to build 5,300 bombers. They collected and turned back into production enough scrap rubber to make 186,000 tons of reclaimed rubber, the equivalent of 12,000,000 tires. Incidentally, one 28 ton tank requires the rubber equivalent of 125 automobile tires. They returned to circulation 26,000 tons of tin, enough to produce the babbit metal, bronze and brass needed for 150,000 airplane engines.

These few examples give you a rough idea of one of the reasons why the Bureau of Industrial Conservation was started. But used materials are not the only ones that can be conserved. New materials can also be saved through simplification at the source, by reducing the number of designs, shapes and colors and by revising complicated specifications. These needs were recognized and co-incidentally it became apparent that substitutions would be necessary when one kind of material became scarce because of increased use in the defense program.

This was the rather comprehensive picture of the needs for conservation back in 1941 when the Bureau of Industrial Conservation was organized and its objectives followed the outline of the needs. These objectives are:

1. Assist industry to conserve new materials by suggesting simplification of design and reduction of number of types, sizes and colors of manufactured units by revising specifications to conserve materials and by offering substitutions for materials vital to defense.

2. Advise industry how to make the best use of their usable secondhand materials by the circulation of information about practical methods of reclamation.

3. Develop salvage programs for waste materials in order to secure a larger, faster flow of normal and dormant scrap from industry into the regularly established reclamation and conversion channels to supplement the supply of materials needed for an all-out armament program.

4. Advise industry how best and most expeditiously to prepare and transport scrap for absorption by industry.

To accomplish these objectives the Bureau was organized with five sections: 1. Specifications; 2. Simplification; 3. Substitutions; 4. General Salvage; 5. Industrial Salvage.

The first three sections are composed of engineers and material specialists from the manufacturing fields who "strip tease" specifications, work with the manufacturers in an effort to reduce the number of styles, types, sizes, colors, etc., of the finished product and who conduct research studies in order to find substitute materials for those that have become scarce either through the requirements of the "victory program" or because the source of supply has been shut off by the fortunes of war.

Tin is an excellent example of the kind of work the Substitutions Section is doing. 67% of the tin supply of the world came from the Malaya Peninsula and the East Indies. That source has been shut off and utilities will no longer be permitted to use 40% tin, 60% lead in the solder on their cable joints. An order from the War Production Board will limit the amount of tin permitted for any solder to a value considerably less than 40%. Two substitutes have been proposed. One is 2½% silver and 97½% lead. The other is 1½% silver 5% bismuth 15% tin and 78½% lead. The workability qualities of the substitutes are not always as good as the 40/60 solder but the cost is about the same. Using 15% in all solders instead of 40% will save 5000 tons of tin annually.

The General Salvage Group is entirely separate and distinct from the Industrial and is doing a splendid job working through the Committees of Civilian Defense, the housewives, schoolchildren, Boy Scouts, etc., throughout the country.

To the Industrial Salvage Section has been assigned the job of advising industry on salvage and reclamation problems and to expedite the flow of both normal and dormant scrap through normal channels into the flow of materials urgently needed for defense.

To do this job there is in Washington a small staff of material specialists and men taken from special fields of industry. In five large industrial cities branch offices have been set up with qualified field men to follow up the work started in Washington and to initiate salvage programs in all the industries in their respective areas.

The work is done by correspondence and the personal appearance of staff members before trade association meetings and small informal groups of industrial top executives. Each group is asked to set up a steering committee which in turn will organize other committees to work in individual industries or individual plants. In the past three months, 170 trade associations have been enlisted in the program, reaching approximately 30,000 industrial plants.

In each case, the same fundamental plan has been followed with variations in detail to suit local conditions. This plan is familiar to all—I hope. The office has tried to reach all executives in all the Utilities with its message. Let me repeat it for emphasis. It is short and simple:

1. Put some one individual in charge of salvage in every department of your business and give him authority to act now.
2. Devise an effective method of bringing the message of conservation to *all* of your employees.
3. Build into your program a plan to keep it alive. Don't let initial enthusiasm die.
4. Report periodically the amount of scrap materials you have released, stating quantity, kind and name of dealer to whom sold.

This last request is not just to add another report in order to make them reach from Washington to San Francisco when placed end to end. It has two purposes. One, the quantities are a measure of the progress of the program, and second, the name of the dealer enables us to follow up the sale to insure that the scrap keeps moving after it has been released.

Many companies have written to the effect that while they had a thorough housecleaning last December, they have undertaken another at government request and have been surprised to find that it produced from 30 tons of steel and iron scrap in one case to 150 tons in another. Likewise the appeal to seek out and review the relative usefulness of obsolete equipment has brought in many cheering reports of increased tons of scrap metals.

One utility company in the East is scrapping an old gas plant and sold 897 tons of steel and iron in February with 2,000 tons more to go. A steel mill in Pittsburgh found 2,000 tons of scrap iron and steel in its backyard. A paper mill in Pennsylvania located 1,800 tons of ferrous metals in the first week of its intensified drive. A coal mine in West Virginia put on a special campaign and sent to the mills 20 carloads of scrap metals in three weeks—almost one carload per day.

However, there is still lots of work to do because scrap materials are urgently needed in the next few months to maintain the tremendous schedule of war production set up for industry. The program for 1942 calls for double the production of 1941 with 53% of it going into war requirements. Mr. Batt tells us that we will need 6,500,000 more tons of scrap steel and iron in 1942 than we produced in 1941—and that was 53,000,000 tons. Open hearth furnaces are being shut down each week because of lack of steel scrap. Conservation, salvage and scrap are still the watch words of industry as well as production. In fact, production cannot meet its schedule without scrap.

The government can help you in your conservation by giving advice on your specifications and on substitutions for non-obtainable materials. Use the Bureau of Industrial Conservation facilities. It can help you on the reclamation of materials that come in from the field although industry has done a pretty good job on salvage already. Write if you have any special problems and the bureau will help.

Everyone can help by expediting the flow of normal scrap through regular channels and particularly by making up his mind to scrap that obsolete equipment that has been kept around for years on the basis that it "may be useful someday." Government must have the help of the chief executives of the individual plants to do this job. It must have *your* help to move that dormant scrap, that obsolete equipment. As the President has said, "We are in this war. We are *all* in it *all* the way." Scrap will help win it. Get in the scrap!

A Post War Program

THAT IS MORE THAN DISCUSSION

NEW YORK PROPOSALS EXCEED $600,000,000

City Planning Commission Recommends Over $20,000,000 For Immediate Plans

Mayor La Guardia Asks Action

Of unusual interest to the country at large, and to the engineer and architect specifically, is the recent recommendation of the Planning Commission of the City of New York, which at the suggestion of the Mayor has developed a Post War Program of Public Works, calling for the expenditure of $628,000,000 within the city. Contract plans are to be prepared at once and held ready for immediate prosecution of work at the end of hostilities.

Much has been spoken and written concerning a post war work program to meet the employment situation after hostilities, but in general it has reached only the stage of talk and project lists, few of which have been thoroughly investigated from the viewpoint of engineering planning. The Federal Government has not yet made available money for plans and until it does, its programs have little significance for the reason that appropriations for the necessary plans and specifications are generally not available in states and cities throughout the country. New York has been able to secure the planning funds through the necessity for postponing work for which appropriations had been made and on which priority and other material problems have caused delay or abandonment.

The problem that is likely to confront the City of New York is how and where to secure the architects and engineers necessary to the preparation of designs, contracts and specifications for so large a program at a time when so many are engaged in war work. It is significant that private practitioners will be able to undertake so much municipal work. The decision of the City to seek assistance through private agencies rather than build up unusually large and unwieldy civil service organizations only to have them broken up within a period of a year or a year and a half is commendable. Nothing is more injurious to the public service than wholesale layoffs of men who enter such service in the hope of making the same a career. The pay of those securing employment through private firms will undoubtedly be higher than it would be if they were employed directly by the municipality, and the tenure of office will be the same. The present engineering staff will be used to the extent possible and supplementation will be used only when the work requires.

The State of New York has passed legislation establishing a temporary Commission for the purpose of post-war planning. As yet, however, no great sum of money has been appropriated for the making of actual contract instruments, beyond that provided for in Housing and Grade Crossing legislation.

It is to be hoped that the example of New York will be followed throughout the country. Eventually the Federal Government may provide planning money but local governments should try to do so now. Such action need not prevent reimbursement at a later date. The employment problem at the end of the war will be greater than ever before in history. Private enterprise as well as government should be included in the endeavor to plan against it. In the meantime government should point the way. The appended data indicate what has been attempted in New York.

CITY OF NEW YORK
OFFICE OF THE MAYOR

April 24, 1942

City Planning Commission
New York City
Gentlemen:

The need of a reservoir of public works to provide employment immediately after the war is conceded. At the beginning of the last depression we were sadly lacking in detailed plans for worthwhile public improvements so that, as a result, we were forced for several months to resort to projects not much above leaf-raking and made-work while we were preparing the specifications for more substantial improvements. There will be serious employment dislocations after the war.

* * *

The dislocation of industry when the war ends will result in unemployment and, with the demobilization of millions of men from the armed forces, portrays a picture just too terrible to contemplate.

* * *

Part of the program includes a post-war public works program requiring the cooperation of Federal, state and municipal governments. Frankly I am disappointed in the way this very important subject has been treated in Washington. Though there have been many hearings by committees of Congress, no sufficient appropriations have as yet been made. All that has been done to date is a plan which will result in nothing

more than an index. Structures, buildings, bridges, schools, tunnels, public works require plans and specifications. Industry requires orders. The unemployed require work. Mills cannot fabricate without plans. We cannot feed people on index cards. A great many who should know better believe that a post-war public works program is completed by a general survey with sketches. No greater mistake can be made. What is needed is first the determination of useful and necessary projects, followed by appropriations for complete working plans together with specifications so that when the time arrives, all that is necessary is to pull out the drawer, advertise the contracts and go to work.

* * *

Following the public hearing by the City Planning Commission, this post-war program will be presented to the Board of Estimate and City Council in accordance with the provisions of the Charter.

Very truly yours,

(Signed) F. H. LA GUARDIA

Mayor

SUMMARY OF DEPARTMENTAL PROJECTS

Projects for each of the various City departments and agencies are presented in three categories, as follows:
LIST No. 1. Projects for which plans and specifications are already completed. Contracts for the construction of these improvements are ready to be let.
LIST No. 2. Projects for which plans and specifications are in progress or are provided for in the 1942 Budget.
LIST No. 3. Projects recommended for inclusion as part of the Post-War Program.
The following table presents a Consolidated Summary of all lists, by Departments:

Department or Agency	Total Estimated Cost	Amount Required to Complete Plans and Specifications
Chief Medical Examiner	$ 500,000	$ 20,000
Department of Correction	3,170,000	137,900
Department of Docks	14,824,862	437,600
Board of Education	117,180,793	2,748,000
Board of Estimate	.....	500,000
Fire Department	4,950,700	141,800
Department of Health	3,070,000	122,000
Board of Higher Education	5,997,720	162,500
Department of Hospitals	78,527,082	2,928,750
Libraries	1,100,000	97,000
Department of Markets	.....	50,000
Museums & Institutions	6,498,100	198,300
Department of Parks	34,849,925	1,233,925
Police Department	2,023,000	82,000
President, Borough of The Bronx	21,840,000	937,000
President, Borough of Brooklyn	35,282,000	1,287,500
President, Borough of Manhattan	63,913,500	1,707,300
President, Borough of Queens	30,726,800	1,141,500
President, Borough of Richmond	7,086,000	280,000
Department of Public Works (Public Buildings)	7,180,000	449,000
Department of Public Works (Bridges)	5,714,000	198,000
Department of Public Works (Sewage Disposal)	83,285,800	2,010,000
Department of Sanitation	10,452,400	327,500
Board of Transportation	89,380,000	4,414,000
Department of Welfare	452,500	.....
TOTAL	$628,005,182	$21,611,575

NOTES: Total estimated costs include acquisition of land, preparation of plans, supervision and construction.
Total estimated costs do not include projects for which study funds only are provided in this program.

Submitted as:

ITEMS OF GENERAL INTEREST

LEGISLATIVE ACTIVITIES FOR 1941

Chairman Sacks Reports

In presenting his most instructive and complete report to the National Society of Professional Engineers at its recent Convention in Atlantic City the Chairman of the Legislative Committee invoked the slogan of "Remember Pearl Harbor" and urged all-out preparation for war. The report is herewith published in full.

1941 was a banner year for Engineering Registration. Four more states, Delaware, Missouri, Illinois, Massachusetts and the Philippines, joined the procession. Forty-five states and our four possessions now have registration acts.

California, Florida, Iowa, Mississippi, South Dakota and Puerto Rico have amended their registration laws during the past year.

Montana, North Dakota, New Hampshire and the District of Columbia yet to go. Since Illinois has adopted a general registration act, it leaves only California with a special act registering only Civil and Structural Engineers. To our California brethren we can only say: "Go thou and do likewise."

Eight states and our four possessions have joint Architect and Engineer Registration Acts. All others have engineering or engineering and surveying acts.

Alertness seems to be the watchword, as is evident from the following State by State report:—

CONNECTICUT: An attempt by lawyers to have an Act adopted which would give lawyers exclusive right to file deeds and other papers pertaining to the transfer of real estate was frustrated. This was done to protect the income of registered land surveyors in small communities who had previously done this work.

DELAWARE: This little but dynamic state would not stay off the band wagon. It was the first one on for 1941. A Registration Act for Engineers was approved April 18, 1941. One of its sections provides for college graduates to immediately file their educational requirements. It is silent on practice by corporations.

DISTRICT OF COLUMBIA: So far, all efforts have been to no avail. House Bill 4734 died in committee. A revised draft of a proposed substitute bill was submitted to your committee. A number of suggestions were made to make it conform with the various state acts. This bill is again before Congress, and it is hoped that barring delay due to urgent war measures, it will be adopted during the coming year.

FLORIDA: Florida amended its Registration Law and made changes affecting examinations and interstate registration.

INDIANA: Score another "bull's eye" for a member state society. Early in 1941 they were successful in having passed a merit bill providing for the merit system of appointment and promotion of registered professional engineers and other engineering employees actually engaged in engineering service in any department, commission, bureau, board or division of the state. The text of the Act is published in full in the *West Virginia Engineer* for May 1941, P. 17, as a goal for other states to shoot at.

ILLINOIS: Illinois was the second state to follow suit. House Bill 279 was enacted July 24, 1941 without the Governor's signature. A copy of the Act was published in the October issue of the ILLINOIS ENGINEER. To pacify all interests, it was agreed to have the Act become effective August 1, 1943. It provides for reciprocity through the N.C.S.B.E.E. and for military service exemption. Professional engineers licensed under this Act cannot practice structural engineering unless also registered under the *Illinois Structural Engineering Act,* which remains in operation. Details of the Act are set forth in the NOVEMBER-DECEMBER 1941 Issue of the AMERICAN ENGINEER, P. 11.

MARYLAND: Here the State Society was successful in defeating a Bill which had been introduced to repeal the Registration Act. "Eternal vigilance is the price of registration."

MASSACHUSETTS was the last of the four states to adopt a registration act. Chapter 643, which contains the Act, was approved by Governor Saltonstall October 9, 1941. Sec. 81-0 is peculiar in that any engineer, professional engineer, civil, mechanical, electrical, industrial engineer or surveyor, can practice engineering or surveying. Their only restraint is that they cannot use the word "registered" unless registered under the Act. This, of course, weakens the Act, but it is hoped that in the near future, the Act will be strengthened and all exemptions eliminated.

MISSOURI: The third State for 1941 really showed the way. Within a month of its introduction, the Missouri engineers were successful in having their Act signed by Governor Donnell on August 4, 1941, become effective October 10, 1941. It is a joint Architects and Engineers Registration Act. Here too, the Architects and Engineers worked in close harmony.

NEBRASKA: The Act which was only recently adopted was tested in Nebraska's highest court. In *DOWNS V. NEBRASKA STATE BOARD OF EXAMINERS FOR PROFESSIONAL ENGINEERS AND ARCHITECTS,* 139 NEB. 23 (1941), 296 N.W. 151, it was held that an engineer of good character, residing in the state, who held an M. E. degree, who had teaching experience, was held entitled to engineering registration, without examination, even though for some time past, he was the owner and manager of a manufacturing company. The Board had held up the application for two years. Under mandamus proceedings, it was held that the Act should be liberally construed and therefore the Board was compelled to grant the license. The opinion is set forth in full in the JANUARY-FEBRUARY 1942 Issue of THE AMERICAN ENGINEER, P. 21.

In *STATE, ex rel JOHNSON V. WAGNER,* 139 NEB. 471 (1941), 297 N.W. 906, it was held that injunction was the proper remedy to restrain a person from practicing a profession without a license. In that case, an osteopath was restrained from practicing medicine and surgery.

NEW YORK continues to be one of our shining lights. Its Legislative Bulletin issued weekly, during the session of its Legislature, reports on every Bill which might affect or be of interest to engineers. A recommendation is given as to each of such bills. At the 1941 Legislature, all Bills but one, which were opposed, were defeated. One Bill went to the people for adoption.

To clarify the question of whether architects and engineers could associate, a Bill permitting such joint partnership was passed and went to the Governor for signature.

NEW JERSEY has a splendid Legislative Committee which during the 1941 session of their Legislature reviewed some 500 Senate bills and 600 Assembly bills. There were 32 pieces of legislation of interest which the committee was for or against. No act detrimental to registration passed. The complete report of the Committee is contained in the 1942 Convention issue of the *New Jersey Engineer.*

OHIO: At the past session of their Legislature, due to the activity of the State Society, no detrimental acts were passed. Secured were increased appropriations for the Examining Board so that it could better function and investigate any violators. Passage of an Act reclassifying all engineers was also obtained. This Act broke down the big jumps in salaries between the different grades of engineers. The Act as submitted, was adopted without change.

The State Society also secured a legal opinion on its Registration Act. Ten questions were asked and answered. These questions are those commonly asked in every State and since the Ohio Act is similar to Acts of other states, these answers should be general in their application. The opinion by Lehr Fess, Esq., of the Ohio Bar, is set forth in full in the SEPTEMBER-OCTOBER 1941 Issue of the AMERICAN ENGINEER, P. 11, under the title of the "OHIO PROFESSIONAL ENGINEERS AND SURVEYORS REGISTRATION ACT."

PENNSYLVANIA: No item of interest came before the 1941 Legislature. However, several cases of interest were heard in the Courts.

In two cases, appeals were taken from the refusal to grant licenses by the State Board. One is still pending; the other was heard and the Board sustained. The opinion of the Court in that case, is set forth in full in the NOVEMBER-DECEMBER 1941 Issue of the AMERICAN ENGINEER, P. 16.

In another case in Philadelphia, criminal prosecution was had. Upon the defendant's promise to behave, the case was taken under advisement by the Court.

PHILIPPINES: The last of our major possessions adopted a registration act in 1941. Because of existing conditions, details are lacking. Whether the Act is still in operation, time alone will tell.

RHODE ISLAND: The military influence is being felt. The report for Rhode Island came from John E. Meade, Captain F. A. at Camp Upton, Long Island, N. Y. The Act which was passed in 1938, is working satisfactorily. The State Society is taking an active interest in the enforcement of the Act.

TEXAS: This State has a Special Steering Committee and Legal Counsel watching all legislation. This committee prevented legislation which would have resulted in a proposed cut in salaries of all state engineering employees. It prevented the merger of the engineering boards with unrelated boards. An Architects House Bill was successfully opposed because it would create great confusion and would have been detrimental to both professions. The Society retained the services of an attorney to rewrite the Architects Bill, which unfortunately was not passed. It must be pointed out that the architects sponsoring the Bill worked in complete harmony with the engineers in ironing out the conflict.

The Society was also successful in opposing the diversion of funds from the State Board. As a result, a recommendation was passed that the State Board be empowered to create an engineering library not to exceed $60,000.00

WEST VIRGINIA: Two Bills were introduced dealing with land sub-division and fees of land surveyors. No action was obtained.

Bills to strengthen the Architects Act, to register building contractors, and to register "steam engineers" were successfully opposed.

West Virginia also obtained legal advice as to its Registration Act. "Legal Aspects of Registration" by Chas. P. McCabe, Esq., Engineer and Lawyer, in the JULY-AUGUST 1941 Issue of the AMERICAN ENGINEER, P. 13, deals with the West Virginia Registration Act of 1935. (Chap. 30, Art. 13, W. Va. Code.) It also deals with the question as to whether corporations may practice Engineering.

UNITED STATES: Congress dealt with a number of matters of National interest. A feather in our cap was the amendment of the Coal Mines Inspection Act. (H.R. 2080) signed by the President on May 7, 1941. At first, the Bill provided that inspectors be practical coal miners. Largely through the efforts of our Executive Secretary, this Section was amended to provide that only mining engineers approved by the Bureau of Mines, could be so appointed.

The perennial O'Toole Bills (H.R. 605 and 606), providing that only lawyers could practice before any United States Department, Bureau, Commission or Agency, were kept in the Committee on Judiciary.

The Wage and Hour Controversy still rages. The war has, of course, played havoc with this question, and no further action at this time, is contemplated.

In the matter of *GENERAL MOTOR SALES CORP. (Cal.) v. C.I.O.* (34 N.L.R.B. No. 115), (Case No. C-1759), under date of Aug. 26, 1941, the National Labor Relations Board ruled that a supervisor could not be a member of a union as he was the agent of the employer.

The Article in the JULY-AUGUST 1941 Issue of the AMERICAN ENGINEER, P. 6: "CLASSIFICATIONS AND ENGINEERING PERSONNEL under WAGE AND HOUR LAW, A Lawyer's Opinion" by R. P. McNulty, Esq., is of interest along these lines.

Your Committee was represented at the hearing on Senate Bill 1128—a Bill to provide for licensing of stationary engineers and boiler operators. The Bill was particularly opposed by the insurance companies writing boiler and machinery insurance. Five states, Massachusetts, New Jersey, Ohio, Montana and Minnesota have such acts. A number of cities license operators. They are New York, Philadelphia, Buffalo, Detroit, Chicago, Kansas City, St. Louis, New Orleans, Seattle, Los Angeles, Omaha and Erie, Pa.

The appointment of Edwin M. Woods to our Washington office makes a welcomed and needed addition. Mr. Woods, who is both an Engineer and Lawyer, will watch all national legislation and thus prevent the lag experienced in the past because of the over-burdening of our Executive Secretary.

Of general interest is the comparison of the various registration acts by T. Keith Legare, Sect. N.C.S.B.E.E. in his article in the MAY-JUNE 1941 issue of the American Engineer, P. 12, entitled "Legal Registration of Engineers and the National Council of State Board of Engineering Examiners".

The "Digest of State Laws governing the Practice of Professional Engineering and Land Surveying" compiled and published by the N.C.S.B.E.E. is excellent, giving a brief analysis of the salient points of all registration acts to date.

Your chairman as representative of this Society attended the annual convention of the N.C.S.B.E.E. at New York City on Oct. 27, 1941. There an all day session was given over to registration. Representatives of all the national societies were present. The views of the various societies pro and con were discussed. Plans for co-operation of all the societies for sponsoring legislation and enforcement were discussed. Much good was accomplished. In particular, what your Society has done and is doing was explained. All felt there was a need for our Society and that it should be the leader in all phases for registration and general welfare.

Altogether, it has been an excellent year for registration. All of the members of the Legislative Committee are to be commended upon their co-operation.

May I close with a prayer for an early and just peace.

Respectfully submitted,

SAMUEL I. SACKS,
Chairman, Legislative Committee

ARMY SPECIALIST CORPS

Offers Opportunities for Engineers

On May 7th the following Bulletin was issued by the War Department. It should be of much interest to professional and business men unable to meet the rigid physical requirements of combat service.

1. **Establishment**—The Army Specialist Corps, a corps of uniformed civilians, was established by Executive Order No. 9078, February 26, 1942. It is a branch of the War Department, under the supervision and direction of the Secretary of War.
2. **Objective**—The Corps will supply all branches of the Army and other agencies of the War Department with professional, scientific, technical, and administrative personnel. In many instances this will release from administrative tasks military personnel for command or combat duty.
3. **Eligibility**—The applicant must be a citizen of the United States. His education, training, experience, and general fitness to fill the position will be the basis for his selection. Physical qualifications and age are secondary to the ability to perform the designated task.
4. **Application**—Information and the necessary forms may be obtained from Army Information Centers, The Adjutant General, the Army Specialist Corps and the Civil Service Commission. Applicants must fill out a questionnaire which is a personal history form. This will be classified and evaluated. *Appointments will be made only to meet the specific needs or vacancies in accordance with requests by the Army or agencies of the War Department.*
5. **Assignment**—Members of the Corps are subject to assignment for duty with the Army in this country and in the theatres of operation. Their post of duty will be determined by the commanding officer of the organization to which they are assigned.
6. **Duration**—Appointments will be made for the duration and six months thereafter. Appointments for a lesser period may be made under exceptional circumstances at the discretion of the Director General.
7. **Rank and Title**—There will be two classes of personnel who will have relative rank with officers and enlisted men of the Army:
   (1) Officers (2) Specialists
   In general, their titles will be the same as those for corresponding rank in the Army.
8. **Promotions**—Promotions may be made by the Director General. *Decorations* authorized by law may be awarded by the Secretary of War upon the recommendation of the Director General.
9. **Uniform**—The uniform will be practically the same as that of the officers and enlisted men, respectively, of the Army. Both uniform and insignia will be distinctive so that members of the Corps will be readily recognized as such.
10. **Pay**—The rate of pay is based upon the Civil Service Classification Act and will, in general, be comparable to that in use for similar grades in the Army.
11. **Civil Service Status**—Any person occupying a Government position other than temporary may be transferred or appointed to the Corps and shall during the period of employment therein be deemed to be on leave of absence without pay. Individuals appointed to the Corps will not acquire Civil Service status, but all appointments for the duration are subject to the Civil Service retirement deductions.
12. **Command Functions**—Members of the Corps will exercise administrative and supervisory functions only. They will not exercise command functions in so far as Army officers or enlisted men are concerned except that when Army personnel are assigned to duty in any activity operated by officers of the Corps, they will be subject to the orders of officers of the Corps to the same extent and in the same manner as though they were members of the Corps.
13. **Military Control**—Members of the Corps will be directly responsible to the military commander of the organization under whose jurisdiction they are functioning.
14. **Customs of the Service**—The normal courtesies, respects, and obligations now in practice between officers and enlisted men of the Army will be recognized and practiced between officers and specialists of the Corps, except that salutes between members of the Corps or between members of the Army and members of the Corps are not required.
15. **Travel**—Travel from home to initial station will be at the expense of the individual. Travel of members of the Corps on official business will be at Government expense subject to Government Travel Regulations governing civilian officials and employees. Travel for dependents is not authorized.
16. **Sales of Quartermaster Supplies and Services**—Members of the Corps will be accorded the same privileges as are accorded commissioned and enlisted personnel of the Army in making purchases of subsistence stores and articles of clothing or equipment prescribed for wear or use by the Corps.
17. **Resignations and Leaves of Absence**—Resignations will be accepted upon approval of the Director General. Members of the Corps are entitled to the same leaves of absence, including sick leave, as are provided for other civilian employees of the Government. Leaves of absence without pay may be granted for any period by the Director General.

May 7, 1942
AG 000.71 (5-7-42) MB-A-M

COURT REVERSES BOARD

Orders Pennsylvania to License Applicant

Through the courtesy of Chairman Sacks of the Legislative Committee of N. S. P. E. attention is directed to a late decision in Pennsylvania, whereby the action of the Registration Board was deemed improper by the Courts of that State.

Following in the wake of a recent Nebraska court decision there can be little further doubt that most registration acts need modification or at least clarification in the matter of the discretionary power placed in the hands of a board. In order to safeguard the registration movement protection must be placed about the *rights* of applicants as well as practitioners. The law should be explicit as to what is required of a candidate for examination and for admission. To leave the final decision to a board's judgment, something that must change under every board, is to shift the human equation or possibility for error in a manner that will continually result in appeals to courts of justice. Why some boards wish to retain a power that is of doubtful value at best, when the recommendations of practicing engineers and an examination would eliminate all possible criticism, is difficult to understand. To quote Chairman (Attorney) Sacks:

> "Following as this does the case of Downs. v. Nebraska State Board of Examiners for Professional Engineers and Architects, 139 Neb. 23, 1941, 296 N. W. 151, and reported in The American Engineer issue of January-February 1942, page 21, it would seem to indicate that where applicants apparently have the necessary qualifications, that the Board must be liberal in its consideration and grant such licenses. The opinions are self-explanatory."

The case in question is that of Nathan Cronheim V. State Registration Board of the Commonwealth of Pennsylvania. In the interest of the public and profession, Registration Boards should be primarily Examining Boards. They may then establish the highest examination standards for all — without fear of criticism.

A CITATION

Retiring President F. H. Zurmuhlen Receives New York Expression

An interesting feature of the recent New York Convention was the reading of a citation by Past President John C. Riedel, who during the formal luncheon attended by many distinguished personages received the privilege of the rostrum from an unsuspecting presiding officer who then listened to the following citation:

The Professional Engineering movement has produced a number of distinguished and able leaders. In President Zurmuhlen it has a singularly able, forceful and zealous administrator—One who has won distinction in every task that he has undertaken since his first association with the New York State Society of Professional Engineers approximately 15 years ago. From the role of a new member he has moved successively, over the years, from post to post until today he is a national figure in his profession. No task has ever been too small for his spirit—none too great for his capacity. Nor have his administrative accomplishments been Fred Zurmuhlen's sole great contribution to the professional movement. Few have so thoroughly understood and so well practiced the philosophy of the movement itself. His intelligent approach to the accomplishment of its objectives has earned for him the respect of all, including those who may have differed with the modus operandi of the Professional Society. His character, his tireless energy and his devotion to country, family and profession, bespeak his high status as a citizen and engineer.

In his passing from the Presidency of the New York State Society of Professional Engineers, the profession in New York can, with pride, point to his achievements and, with assurance, commend him to the further attention of the profession throughout the Nation.

FROM BEYOND U. S. A.

South America and Canada Listen

As a result of the short wave broadcast of the address of President Manuel Prado of Peru delivered at the recent convention of the New York State Society the following cablegrams were received in New York within twenty-four hours:

W LA NLT 18 LIMA 27 16
NLT SOCIEDAD INGENIEROS NYK

AGRADECEMOS HOMENAJE NUESTRO SOCIO HONORARIO INGENIERO MANUEL PRADO RETRIBUIMOS ENTUSIASTAMENTE SALUDOS INGENIEROS GRAN REPUBLICA AMERICANA
ROQUE VARGAS PRADA, PRESIDENTE
SOCIEDAD INGENIEROS DEL PERU

We thank you for the homage paid to our member the Honorable Engineer Manuel Prado and enthusiastically return our greetings to the Engineers of the Great American Republic.
Roque Vargas Prada
President, Society Engineers of Peru

NEWFOUNDLAND MAY 17 1942
FREDERICK H. ZURMUHLEN
NYK STATE SOCIETY OF PROFESSIONAL ENGINEERS 1941
GRAND CENTRAL TERMINAL NYK

Enjoyed the Spanish broadcast over short wave Station WBOS of your dinner in honor of President Prado of Peru. Congratulations on the progressiveness of your society which will not only aid in cementing Latin American friendship but which also casts great credit on the professional engineers of America. Best regards.
MAJOR JOHN WARD BERETTA.

That the Professional Society Movement offers great hope for future collaboration between nations is an increasing belief of leaders in many walks of life.

One notes that the felicitations from Newfoundland come from Major John Ward Beretta. Last previous word was signed Captain John Beretta.

Congratulations—Major Beretta.

A TECHNOLOGICAL COMMAND

In the April issue of *Fortune* appears a most interesting article on the need for the immediate mobilization of the nation's scientists and engineers if America is to win the war. Quoting from Walter Lippman—"As Fortune Magazine makes so vividly clear in its current issue, scientifically trained men have a part to fill which no one else—no soldier, no statesman, no business man—can fill." That the contentions of both the publication and the commentator are to the point needs little debate. Action, not discussion as to whether Army or Navy services shall jointly or separately control specific endeavor, is of the utmost importance.

That the United States is moving toward a technological high command is envisioned by those in a position to surmise. It is in a measure noticeable in the fact that Generals MacArthur and Somervell and perhaps other high commands are of the engineering mould.

It must be remembered that other nations are equally aware of the role played by scientists and engineers in modern war. As *Fortune* states:

> Technology is no secret weapon. It is not a mystic or infallible talisman. It is simply the application of the sum of man's knowledge of the physical world to the task of getting a job done with maximum results and a minimum of error. It is science in action. The periphery of that action, expanding at incredible speed over the last decades, now encompasses a leviathan body of knowledge. It may include today a statistician weighing the relationships of scattered economic data, a bull-necked commander of a tank corps with precise knowledge of his ugly monsters of war, as well as a chemist building a new molecular world. Its devices may be a great internal-combustion engine, a new vitamin, an electronic microscope, a new welding technique, or simply a new mathematical formula. If these seem unconnected, put it down as a major failure of education and the press to interpret and link up the vital, working relationships of the technical world in which we live. Before it is even possible to measure U. S. technology as a democratic weapon of total war, it is necessary to understand the order and structure of the technological world.

The subject—Technogolical Command is of particular interest to Engineers. A review of the material in *Fortune* Magazine for April is recommended.

NOTES RE N.S.P.E. PRESIDENT

President Holbrook advises that his recent request for opinions from the Advisory Committee has brought a complete set of replies from Past President Beretta, now a Major in the Air Corps of the U. S. Army on duty in Newfoundland. In general Major Beretta expresses approval of the President's recommendations and promises a contribution to The American Engineer in the near future.

As a member of the Committee on Engineering Schools of E.C.P.D. President Holbrook is able to bring to the deliberations of the Committee the experiences and point of view of the professional society, which is keenly interested in pointing education toward the objectives of public and professional welfare.

The role of an Educator leaves little opportunity for relaxation in these days of "speed up." As Dean of the Schools of Engineering at the University of Pittsburgh, President Holbrook has been faced with the task of organizing extra summer semesters as well as re-orienting other phases of the curricula. As President of N.S.P.E. he requires assistance from all State officers. He requests it and will receive it.

YOUTH SPEAKS

INDEPENDENCE DAY INSPIRES
The Sons of American Engineers

TO HELL, HITLER

By

Harry Zurmuhlen—*Age 14*

THE FUEHRER has no sons to give
That bloody Nazi land may live,
So all alone he bears the brunt,
Five hundred miles behind the front.
THE FUEHRER'S foaming at the mouth,
His northern troops are running south,
His eastern troops are running west,
Or any way that they think best.
THE FUEHRER dreams of Nero's reign,
Because he, too, was quite insane,
Then takes another "shot of hop"
And says Napoleon was a flop.
THE FUEHRER promises to give
His men more land in which to live,
But all he gives, the lying hound,
Is scant six feet beneath the ground.
THE FUEHRER loves his Nazi blight,
His heart is with them when they fight,
His soul rejoices when they win,
Although his body's in Berlin.
But soon this FUEHRER'S end will come.
His days are numbered one by one,
And when he's purged, this DOG gone mad—
Mankind may pause and well be glad.

"AS AN AMERICAN . . ."

By Edwin H. Rees—*Age 18*

. . . I will fight for you, America.
I will fight with all the power of my body, with all the conviction of my conscience.
I will fight because I believe in you, America, and I will continue to believe when I have finished fighting.
I will fight for you because you have fought for me, America.
You fought a longer fight, a harder fight, and won—for me, America.
You fought the tyranny and the intolerance which men before you created.
And you broke with the Evil Ages to give me the Heritage I now defend.
You gave me Freedom, America,—and Freedom I shall hand down—pure and unstained.
You gave me liberty and respected my mortal struggle . . .
. . . I will fight the force that would punish you for these gifts.
I will fight for your tradition, America, and hope that by fighting, I will enrich that tradition.
I will fight for your doctrines, America, and so fight for my own religion, my own dignity, my own love for my brother.
Not one of these rights will I surrender for my safety, or exchange for my comfort.
Rather would I go down with these than kneel to bury one sacred ideal.
I can fight, America, because I am strong with your strong spirit.
And your spirit is strong because your prayer is heard, your cause is just, your purpose is mighty and lofty with nobility.
I will serve you, America, now—with faith—as before.
And my triumph shall serve the Glory of your Future, America,
For in the hearts and minds of men you stand in the warming light of Ultimate Triumph
And cast the benevolent shadow of courage and hope over all Mankind.
I will win the fight, America!

AN APPEAL

Society Seeks Back Issues
of
The American Engineer

Have you—kind reader—any previous numbers of The American Engineer? Do you know anyone who has? Will you aid the National Society to the extent of presenting to it any copies of issues which you can dispense with? Those needed most are the following:

Month	*Year*	*Month*	*Year*
January	1935	April	1937
February	1935	May	1937
March	1935	June and July	1937
April	1935	August	1937
May	1935	October	1937
June	1935	November	1937
August	1935	December	1937
September	1935	February	1938
October	1935	March	1938
November	1935	April	1938
December	1935	August and September	1938
February	1936	November	1938
April	1936	January	1939
May	1936	March	1939
June	1936	May	1939
July and August	1936	June and July	1939
September	1936	August and September	1939
October	1936	October and November	1939
November	1936	February and March	1940
December	1936	April and May	1940
February	1937	August and September	1940
		July and August	1941

IMPORTANT!!

DUES FOR 1942 PAST DUE
HAVE YOU FORGOTTEN?

NATIONAL SOCIETY OF PROFESSIONAL ENGINEERS
MEMBERSHIP RULES

By **Constitution**

Dues become due and are payable on January 1 of each year.

By **Action of Board of Directors**

1. A member shall be considered in GOOD STANDING if dues are remitted prior to close of December 31 of year for which such remittance is due.
2. A member failing to remit dues before close of December 31 of year in which said dues are payable shall become delinquent and if remittance is not made within eighteen (18) months from due date said member shall be dropped from the membership rolls.
3. Only members in good standing shall be carried on the mailing list of the American Engineer.
4. A member who is delinquent or one who has been dropped, to be reinstated, must pay current dues in addition to one year's dues in arrears.

COPIES OF SECOND MILE

At the request of one of our readers The American Engineer announces that copies of "The Second Mile" referred to in the March-April issue may be procured from the Engineers Council for Professional Development at 29-33 West 39th Street, New York, N. Y. Single copies 10 cents; in quantities 5 cents.

Fragments from

STATE & SOCIETY ACTIVITIES

An Appeal To State Societies and Chapters

The American Engineer cannot function without assistance from you. It requires news items at regular intervals. Unless received at least a month in advance such items should be accounts of what has happened. Notices of scheduled meetings which take place within a few days or a week of the receipt of the notice are of no value as the event has passed before publication takes place. Notes of minutes, briefed, of what happened at such meetings are valuable and will be printed. If some States occupy more space in The American Engineer than others it is because such States cooperate in furnishing news. Where nothing is published it means that no news of any kind has been received.

Please Bear in Mind:

1. The American Engineer schedule for 1942 calls for publication about August first, October first, December first.
2. Material must be in the hands of printer before July 15, September 15 and November 15 to appear in the succeeding issues.
3. Material cannot in all instances be printed in full if space does not allow. Note important happenings and send them to the Editor before the middle of the appropriate month.

Please keep The American Engineer up to date and useful as a news publication by cooperation.

The Editor

Arkansas

A communication from the Arkansas State Board of Registration inspires the hope that The American Engineer will be able to carry to the rest of the country the principal activities of the Arkansas Board. This opportunity will be welcomed by the publication.

California

Excerpts From Bulletin of the State Board of Registration

State Board Elects President

Asa G. Proctor, Woodland, was elected president of the State Board of Registration for Civil Engineers at the annual meeting held in Los Angeles. He succeeded Henry D. Dewell, who was named vice president.

Mr. Proctor has been a member of the board since January 15, 1933, having served as vice president for the past two years.

Governor Reappoints Board Member

Governor Culbert L. Olson announced the reappointment of Mark M. Falk, Glendale, as a member of the State Board of Registration for Civil Engineers for a four-year term expiring January 15, 1946.

Mr. Falk was first appointed a member of the board in November, 1941, to fill the unexpired term of Julian Hinds, Los Angeles, resigned, which expired January 15, 1942.

Violators Cited

During the last three months the board has received many complaints from clients, registered civil engineers and licensed land surveyors that persons not registered or licensed, as required by the Business and Professions Code, were practicing civil engineering or making surveys.

An investigation of all such complaints has been made, and as a result one individual was hailed into court, drawing a fine of $25 or five days in the county jail, several others were cited by the various district attorneys to show cause why they should not be prosecuted. In every case of those so cited acknowledgment was made that "they had unintentionally violated the law" and that in the future they would not undertake any civil engineering or surveying work of whatsoever nature unless they had secured a license in the meantime. Predicated upon their promise to observe the law complaints were not issued.

Some of the complaints reaching the board were found to be unfounded. Either the informant did not have all necessary information regarding the individual's acts or his interpretations of the law was incorrect.

All infractions of the Engineers' or Surveyors' Acts, either by a nonregistered or nonlicensed person, or by a registrant should be reported to the board promptly. By so doing the board can render a better service to the public and the profession. If there is a doubt regarding an apparent violation report the incident, and an investigation by the board's investigator will determine whether or not a violation exists.

Registration Gaining Favor

Registration of engineers has been gaining momentum during the past decade. Montana, New Hampshire and North Dakota are the only States that do not require registration of engineers. Registration advocates, and they are increasing, predict that these three States will pass some regulatory measure either at the next session of their Legislature, or within a very short time. Possessions of the United States regulating the practice of engineering include Alaska, Hawaii, and Puerto Rico. The District of Columbia has recently passed a law.

May Examinations

The written examinations for registration as Civil Engineer held on May 1st and 2nd are presently being graded and reviewed. It is expected that the list of successful candidates will be promulgated within the next month.

Colorado

The American Engineer is appreciative of the offer of cooperation received from Colorado and will be glad to publish any information concerning the activities of the State Board of Examiners.

The office of the Secretary of the Board advises that a new State roster is ready for the press and promises that a copy will be forthcoming.

Officers and members of the Board are:

H. S. Sands, Chairman

M. C. Hinderlider, Secretary-Treasurer — W. T. Blight, Assistant Secretary

James Underhill — Frank H. Prouty

Clarence L. Eckel

Florida

State Board Responds

The State Board of Engineering Examiners has forwarded a copy of its 1942 Year Book, together with a copy of the new registration act as passed at the last session of the legislature, a copy of the Rules and By-Laws of the Board and a copy of the Land Surveyors and Plat Filing Law. The American Engineer appreciates very much the courtesy of the Florida Board and welcomes the opportunity to publish its proceedings. Future issues will contain further details.

Lt. Colonel Chester F. Wright, formerly President of the Board, is on active duty with the Engineer Corps, and on April 1, 1942 he was replaced on the Board by Mr. Alexander Blair of Lake Placid, Florida. Officers and Members of the Board are now as follows:

Mr. E. S. Fraser, President, Tallahassee, Florida
Mr. J. Wylly Keck, Vice-President, Miami, Florida
Dean Joseph Weil, Secretary-Treasurer, Gainesville, Florida
Mr. E. W. Watkins, Member, Palatka, Florida.
Mr. Alexander Blair, Member, Lake Placid, Florida.

Candidates for Licensure

The following announcement was broadcast by the Florida State Board of Engineer Examiners prior to the date of this publication.

TO ALL REGISTERED ENGINEERS AND LAND SURVEYORS OF THE STATE OF FLORIDA:

The following is a list of applicants who, if no serious objection is filed, will be permitted to take the examination for registration at Jacksonville, Florida, May 21, 22, 23, 1492. There are others whose names are not shown on this list, but have been circularized previously.

If you have any reason why any of the following applicants should not be registered, should he pass the examination successfully, and you wish to submit the reason in valid form, please do so at once, having your objection in the hands of the Secretary before May 5, 1942.

ENGINEERS:

J. W. Allen, Lakeland, Fla.
N. L. Bryan, Jr., DeLand, Fla.
W. D. Canan, Wilkinsburg, Pa.
C. F. Class, Harrisburg, Pa.
R. V. Coleman, Lake City, Fla.
R. B. Cowan, Pensacola, Fla.
C. P. Datson, Tallahassee, Fla.
G. C. Davis, Washington, D. C.
C. J. DeCamps, Tallahassee, Fla.
E. C. DeGarmo, Tallahassee, Fla.
G. M. Dexter, Scarsdale, N. Y.
F. C. Frohock, Key West, Fla.
W. G. Goodwin, Lake City, Fla.
Charles Hopkins, Tallahassee, Fla.
E. W. Klein, Atlanta, Ga.
A. P. Learned, Kansas City, Mo.
C. S. Leopold, Philadelphia, Pa.
L. E. Leslie, Madison, Fla.
C. W. Logan, Madison, Fla.
J. B. MacLean, Garden City, L. I., N. Y.
Donald Mills, Atlanta, Ga.
J. E. Perkins, Jr., Tallahassee, Fla.
A. H. Pillsbury, Jacksonville, Fla.
G. M. Rust, Birmingham, Ala.
W. H. Seay, Chipley, Fla.
B. E. B. Snowden, Atlanta, Ga.
J. C. Terhune, Hackensack, N. J.
S. P. Turnbull, Bartow, Fla.
J. M. Watson, Miami, Fla.
J. F. Webb, Miami Beach, Fla.

LAND SURVEYORS:

E. E. Brewton, Panama City, Fla.
J. W. Cook, Bagdad, Fla.
H. F. DuVal, Sr., Miami, Fla.
J. C. Ferris, New Smyrna Beach, Fla.
M. K. Flowers, Lacoochee, Fla.
Max Garcia, Neptune Beach, Fla.
A. G. Kendrick, St. Augustine, Fla.
G. W. Mosley, Fernandina, Fla.
J. F. Webb, Miami Beach, Fla.

Very truly yours,
JOSEPH WEIL, Secretary-Treasurer

This is a commendable practice which merits recognition by other State Boards. It affords an opportunity to protest the registration of any person of questionable character. In the final analysis character is the most important of all professional requirements.

(The American Engineer would like comments on this procedure as a means of suggesting the same to other States.)

Idaho

The response of the Idaho State Board to an appeal for news is most gratifying. The American Engineer is pleased to learn that it is known in the State of Idaho. Secretary Raymond J. Briggs is a member of N.S.P.E. (Washington Society) and the cooperation of himself and the Idaho Board is most welcome.

Colonel H. R. Flint Reappointed

Governor Clark has reappointed Lieutenant Colonel H. R. Flint of Pocatello, Chairman of the State Board of Engineering Examiners for a term of five years. Colonel Flint has completed a three year term prior to his new appointment.

New Licensees

At a meeting of the Idaho State Board of Engineering Examiners held March 27-28, 1942, William I. Hodge, c/o Amalgamated Sugar Company, Nampa, Idaho, and George H. Jennings, 101 California Street, San Francisco, California, were granted licenses to practice professional engineering in Idaho.

Indiana

The courteous response of the Indiana Board of Registration is much appreciated by The American Engineer. The offer of collaboration will afford the publication an opportunity to keep other States advised of the actions of this progressive board.

The Board is composed of the following:

John A. Kelley, Chairman

Louis A. Geupel, Vice-Chairman — M. G. Johnson

L. T. Gootee, Secretary — R. V. Achatz

C. C. Knipmeyer

Iowa

In anticipation of the 1942 issue of the Annual Report of the State Board of Engineering Examiners the American Engineer lists the membership of the Board and expresses appreciation of its offer of cooperation.

Howard R. Green, Chairman

L. M. Martin, Vice Chairman — Maurice C. Miller

J. S. Dodds, Secretary — Cecil Ewen

Wm. E. Brown

Kansas

The response of the Kansas Board to the request that The American Engineer be furnished regularly with material from the various State Examining Boards is most encouraging. As an evidence of collaboration the Secretary advises that the following candidates were admitted to the practice of professional engineering as of May 6, 1942:

Kenneth G. Lancaster, 2605 Maryland Avenue, Topeka, Kansas
Wilbur H. Ruese, 1701 Illinois Street, Lawrence, Kansas
J. E. Schrock, Cottonwood Falls, Kansas
Albert P. Learned, 301 East Meyer Blvd., Kansas City, Missouri
John Henry Bateman, 3001 Fairfax Road, Kansas City, Kansas
Richard Carlton Brown, 2717 Michigan Street, Topeka, Kansas
Paul Dunlap Haney, 1745 Louisiana Street, Lawrence, Kansas

The Kansas Board is composed of:

R. A. Seaton, Chairman

A. M. Meyers, *Vice Chairman;* P. L. Brockway, *Secretary;* Earl D. Hay, *Member;* O. J. Eidmann, *Member.*

Louisiana

The American Engineer wishes to acknowledge the courtesy of the Louisiana State Board of Examiners in transmitting the 1942 Roster of Civil Engineers and Surveyors of that State and in placing the publication on its mailing list. The new roster lists over 600 practicing engineers in addition to nearly 100 surveyors.

The officers and members of the Examining Board are:

J. T. Bullen, President, Shreveport
Donald Derickson, Vice-President, New Orleans
B. W. Peques, Secretary, Baton Rouge
B. H. Grehan, New Orleans
Edward S. Bres, New Orleans

The Chief Examiner is R. B. Fitzgerald

Michigan

From the State whose Governor, Honorable Murray D. Van Wagoner, is a distinguished member of the engineering profession, comes a most collaborative acknowledgment of The American Engineer's office to publish proceedings of the State Examining Boards.

Apparently the Michigan Board has several major problems to contend with, such as practice without registration and improper use of the practitioner's seal.

The Board has recently elected L. G. Lenhardt as Chairman and the Governor has reappointed Henry T. McGaughan as a member of the Board. The complete roster of the Board stands as follows:

L. G. Lenhardt, Engineer Member, Chairman
Henry T. McGaughan, Engineer Member
Clyde R. Paton, Engineer Member
Wilfrid C. Polkinghorne, Engineer Member
Wells I. Bennett, Architect Member
Louis C. Kingscott, Architect Member
Andrew R. Morison, Architect Member
Watts Shelly, Executive Secretary

New York

Annual Convention — May 15th-16th

The fifteenth Annual Meeting of the New York State Society of Professional Engineers held in the City of New York proved to be one of the most successful and interesting in the Society's history. Despite the military exigencies with which presently scheduled gatherings must contend, the attendance was all that could have been hoped for.

Over 1,000 persons visited the various sessions of the two-day conclave. More than 800 attended the social gathering held on the evening of the first day and the Saturday luncheon attracted about 400.

The highlight of the meeting was the presence of President Manuel Prado of Peru who spoke amid colorful surroundings, first in English and then in Spanish. In the latter instance he delivered a stirring appeal which was transmitted by short wave radio to South America and other parts of the World. The address of President Prado was part of a symposium on Latin America—Its Future Engineering-Economic Development, participated in by Ing. G. B. Puga, Technical Editor of "Ingenieria Internacional de Construccion y de Industria"; Dr. Jorge Acuna, Chemical and Industrial Engineer; Ing. E. A. Reinoso, Research and Consulting Chemist and Engr. Frederick Mardus, Consulting Engineer and author of the Symposium, and President Zurmuhlen.

President Frederick H. Zurmuhlen greets Dr. Manuel Prado, President of Peru

The luncheon held on Saturday, the 16th, was addressed by Major-General Sanderford Jarman, U. S. Army, Commanding General, Anti-Aircraft Artillery Command, Eastern Department; and Dr. Samuel G. Hibben, Director of Research, Westinghouse Electric & Manufacturing Company, both of whom presented some interesting sidelights on the military situation and explained some of the techniques involved in air manoeuvers, gunnery, light problems and other features of both offensive and defensive war.

The business sessions occupied Friday afternoon, Saturday morning and Saturday afternoon. Inspired perhaps by the urge of unity which has swept aside differences of opinion throughout the nation the delegates and members engaged in less controversial discussion than in many years.

An expression of appreciation and commendation which appears elsewhere in this issue was presented at the luncheon to an embarrassed toastmaster, who in response to an appeal for the courtesy of delivering an important message unwittingly extended to Past President Riedel the opportunity to read a citation concerning the toastmaster.

Vice President James F. Fairman was elected to succeed the retiring president. Elected with him were: Clarence W. Post, *First Vice-President;* Joseph A. Brady, *Second Vice-President;* Ernest F. Fox, *Financial Secretary;* Patrick M. Corry, *Treasurer. Directors at Large*: Francis J. Laverty, William F. Kavanaugh, Sheridan Black, Michael D. McDonald.

State Board Approves

Preliminary Examinations Plan

After several years of petitioning the State Education Department, on the recommendation of the Board of Examiners for Professional Engineers, has agreed to the adoption of a two-stage professional examination of candidates. Following is the resolution approved by the Board and accepted by the Department:

> The Board voted to approve in principle a proposal to permit candidates who have been graduated from approved engineering schools or who have otherwise met the educational or specified alternative requirements to take preliminary written examinations in engineering fundamentals at any time subsequent to the fulfillment of such requirements, postponing final examination for admission to the practice of professional engineering to the completion of the required experience period. The final details to be worked out between the Education Department and the Board of Examiners.

Present plans contemplate that the first two stage examinations will take place in June 1943. The intervening time is required to prepare for the new procedure. If any legislation is necessary the 1943 legislative session, which begins on January first, will be asked to enact the same.

Student Chapter Appreciation

The following telegram was received during the recent convention of the New York State Society:

> New York State Society of Professional Engineers
>
> In the name of all the Engineer Student Organizations in the State our chapter thanks you for your support of the "Engineer in Training" movement. The success of this movement is due solely to your support. Now it only remains for us working jointly to make this privilege a reality and to make certain that "Engineer in Training" never becomes an empty title. We look to you for leadership in this regard. James F. Fawls
>
> President Manhattan College Chapter
> American Society of Civil Engineers

Ohio

Planning Appeal

In a recent bulletin President Kennedy addressed himself to Engineers of the state and nation in the following appeal:

Fellow Engineers:

The newspapers, magazines and radio have by now emphasized to all the gravity of present world events. The comfortable state in which we have lived in the past is gone and new standards have taken its place. We are in the same predicament Columbus found himself in; when he set sail for this continent, he didn't know where he was going; when he arrived he didn't know where he was; when he returned home he didn't know where he had been. Where we are heading today no man knows.

If we win this war, and God grant there may be no doubt about that, the United States cannot escape occupying a dominating place in world affairs. Vital questions of readjustment will be presented and we as a nation must make every effort to understand and answer them in an adequate way.

This war is largely a technical battle. Equipment and scientific application thereof will determine the final outcome. The Engineer is in great demand today and in many instances he has been seriously dislocated from normal pursuits.

Intelligent planning and much preparation must be in order to prevent a severe collapse when war production is sharply reduced. Much work by industry must be done looking forward to this inevitable time. State and local governments should be ready and co-ordination of their programs with National public works programs should be anticipated.

Who is better equipped mentally and professionally to take the lead in much of this planning than the Engineer. Every Professional Engineer, no matter where he is located today, should seriously consider how he can fit into this picture. Those in authority can do something to start the ball rolling and those who are not can think and plan in their own minds. They can perhaps make suggestions to their superiors to assist them or to stimulate them to action.

To win the war is the first order of the day but it is with deep concern that we must recognize that the termination of defense work will present a serious problem to many Engineers.

It will take the best of which we are capable to solve this problem. By concerted study and thought we may be able to cushion the shock and serve not only our professional brethren but our nation as well.

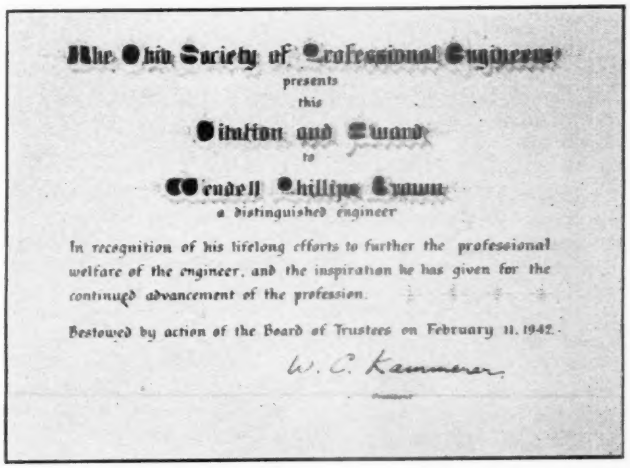
The tasks of reconstruction will require strong, aggressive leadership. The post war period will demand a fight for fundamental principles. Sound government will demand intelligent interest and work by many who have never concerned themselves with such matters before. The challenge is here. Are we Professional Engineers willing and ready to meet it?

Yours sincerely, J. S. Kennedy, President

Society Approves Citations

The Ohio Society has adopted as a policy the practice of presenting awards to engineers who have rendered signal service to the profession. These awards are to be restricted to those whose services have been rendered in the professional movement. The advancement of the profession, not the individual, is the criterion of merit. This is an excellent idea and merits consideration by other State organizations. If properly used and safeguarded this citation will be a highly prized one. The awards should not be easily obtainable. They should be exclusive and few in number.

Following is a reproduction of the first one to be awarded:


The Ohio Society of Professional Engineers
presents
this
Citation and Award
to
Orville Phillips Lamm
a distinguished engineer
In recognition of his lifelong efforts to further the professional welfare of the engineer, and the inspiration he has given for the continued advancement of the profession.
Bestowed by action of the Board of Trustees on February 11, 1942.
W. C. Kammerer

Membership Increases

According to a recent announcement of the State President the membership of the Ohio Society has increased by nearly 70% within the past year. This is an astonishing growth. What is the secret, Ohio—other States would like to know.

Chapter Activities

Reports from Maumee Valley, Southern Ohio, Hocking Valley, Akron, Zanesville, Marion, Portsmouth, Springfield, Dayton

and Franklin indicate varied forms of activity in addition to the consideration of war problems. New constitutions, round table discussions, salary and fee schedules and the professional problems resulting from the war are among the activities recited in recent Chapter bulletins.

South Carolina

From Chairman L. S. LeTellier of the South Carolina Board of Engineering Examiners comes an expression of approval of the American Engineer appeal for an opportunity to disseminate news of the several State Engineering Examining Boards of the nation. The publication hopes to be of service.

South Dakota

Despite the modest response of the South Dakota State Board of Engineering and Architectural Examiners The American Engineer is appreciative of the offer of collaboration and will be glad to publish any news relevant to the actions of the Board which is composed of W. J. Dixon, *Chairman;* J. W. Henry, *Vice-Chairman;* H. B. Blodgett, *Secretary;* C. J. Johnson, J. H. Lake.

The office of the Secretary is Box 74, College Station, Brookings, South Dakota.

Texas

Other States Please Copy

A Professional Engineers' Library

In a news release issued subsequent to its meeting on May 15th and 16th the Texas State Board of Registration advised that it had accepted the proposal of Texas Agricultural and Mechanical College to locate the Texas Professional Engineers' Library on the Campus of that institution. Sixty thousand ($60,000) dollars appropriated by the Texas legislature has been made available for the Library. This is an outstanding accomplishment for the profession in Texas. The State Board of Registration merits commendation for its initiative. Following is the complete release.

The Texas State Board of Registration for Professional Engineers in session on May 15 and 16, 1942, made provision for the establishment of a Professional Engineers' Library in accordance with a provision in the legislative appropriation for the Board.

The Board has given thorough study to the matter of a Professional Engineers' Library, has obtained the ideas and opinions of the registered professional engineers of Texas, has held hearings and in every way sought to make a wise decision in the interest of the State of Texas. After due and serious consideration of all available factors and of the excellent and generous proposals, which made a choice most difficult, the Board adopted a resolution accepting the proposal of The Agricultural and Mechanical College of Texas.

In the resolution passed by the Board it was clearly stated that the books and services of the library were to be made available to all registered engineers of Texas. It was required of the A and M College that courses in the use of an engineering library be made available by extension, by mail and other means as well as through cooperation with municipal and local libraries in order to provide the greatest possible use of the library by the engineers of the State.

In the present emergency the Board realizes the importance of military, aeronautical and naval engineering and feels that especial attention should be given to this field of engineering in the selection and maintenance of the Professional Engineers' Library. It was pointed out at the Board meeting that there were twenty-one graduates in engineering from the A and M College of Texas in the Class of 1941 engaged in the defense of Bataan.

In considering the opportunities to serve the engineering profession with a sixty-thousand dollar library, the Board took a long range view of the service to be rendered and decided that the most good would be accomplished by training young engineering students in the use of a library. It was brought out at the meeting of the Board that the A and M College of Texas had more than fifty per cent of all the engineering students in the State.

The American Engineer expresses appreciation of this splendid response to its appeal for news from State Registration Boards.

Forty-one Registrants

At the meeting of the Board of Registration held on May 15th and 16th forty-one applicants were granted registration. This brings the total number of persons registered by the Board since its inception in 1937 to 5195.

Personal Note

The American Engineer acknowledges with appreciation the receipt of an unusual publication entitled *Calculus for Practical Engineers* by Dr. Alois Cibulka of the Petroleum Department of Texas University at Austin. This latest work is a companion volume to a *Design Handbook for Practical Engineers* by the same author.

Virginia

Post War Programs

As a means of meeting the unemployment situation anticipated at the close of the war, various communities are preparing schedules to be submitted to the Federal Public Works Reserve. As part of Virginia's program the town of Salem recently approved approximately half a million dollars worth of projects.

Covington Requires Licenses

Under a recent ruling, professional men will be required to obtain town licenses to practice. Engineers and Architects are among those who will be required to pay fifteen dollars for the privilege. This is something new as a policy and suggests that care must be taken to avoid confusion and violation of the State practice acts. It is to be hoped that the requirement of State registration will be carefully checked before granting local licenses.

Wyoming

The State Board of Examining Engineers of Wyoming advises that during the past year four persons: Cecil L. Bishop, Jack Starbird, Erling Erickson and A. Lee Christensen successfully passed the required examinations and were registered as land surveyors.

In accordance with legal provisions the following were granted reciprocal registration: Gerhard B. Deuhs as a Professional Engineer; Iestyn Martin Charles as a Professional Engineer & Land Surveyor; Stephen C. Berry as a Professional Engineer & Land Surveyor; Ernest Carroll Porter as a Professional Engineer (Electrical); and Charles L. Knaus as a Professional Engineer.

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(Cont. from page 8)

except traveling expenses. We have helped design and install sprinkler systems in 60 hospitals and 15,000,000 sq. ft. of warehouse space. At airfields we supply and man special crash trucks that must be at the field when planes take off or land.

We are now procuring for the Office of Civilian Defense some $52,000,000 worth of fire equipment for supplementary use at certain cities.

The field organization for this Repairs and Utilities work consists of a small commissioned staff at each post under a Post Utilities Officer. This staff is supported by an all-civilian staff of engineers, technicians and mechanics. The Post Utilities Officers are under the technical supervision of a Division Utilities Officer directing the work in nine maintenance areas which correspond to the Corps Areas into which the United States is divided for military administration.

In the main office in Washington and in each of the Division Utilities Offices, we maintain a staff of engineer specialists, inspectors and instructors. These men may be officers or civilians. In the interest of permanence we need civilians in all key positions. We are trying to build up a corps of maintenance and operating engineers in each of the broader fields of civil engineering, sanitary engineering, combustion engineering and so forth. We believe that the technique of maintenance and operation is a one requiring the finest specialized engineering talent, and we are vitally interested in raising the standards of this profession.

We have gone to the municipal and utilities management and operation field to recruit our staffs. In the Washington office we have the City Manager of Flint, Michigan, the Public Works Commissioner of Fresno, California, a professor of Fuel Engineering and a professor of Sanitary Engineering, beside a large staff of municipal and utilities engineers. We need more of these engineers in both commissioned and civilian capacities.

In the last war the Corps of Engineers increased from 260 officers to 11,000 officers. Two years ago it had 800 officers. Today it is again up in the thousands. However, these are but a fraction of the Engineers in the Armed Forces.

They burned the same midnight oil, they gave the same unquestioning devotion to their tasks and they made progress possible when otherwise we could not go on. And this will continue to be so throughout the trying times to come when every edge must be out if we are to survive.

We hear of an aroused and awakened America. In concluding may it be said to you, who are safeguarding the standards of the American engineer, that the engineers of this country have long been aroused and awakened, and we of the armed forces feel that with your continued participation we can look forward with confidence to that bright day when we celebrate the successful outcome of this struggle.

(Cont. from page 5)

He had shouted his way into their confidence; he had attacked other peoples ruthlessly and with evil cruelty and had tried to justify his wickedness by saying that such a fate could never be visited on his own race of supermen. And now that the German people are beginning to feel our wrath, and as a thousand of their cities and towns soon will feel it, they will know that Hitler's promises are written in water. And Hitler will meet a new enemy. That enemy will be on the home front. It will be his own people, and retribution will be swift and merciless. How long we must persevere before these things happen we do not know. We do know that by skilful planning and by courageous action we can speed the day. If we work and fight together, with singleness of purpose, and if we strive alone, each in his own job, making each day and each hour and each individual minute count we'll assure victory.

Engineers ask what can they do, individually. This is what they can do. They can double and redouble their efforts on every task they face, whether that task is concerned directly with the armed forces or not. For no matter what their engineering field, no matter what project they are working on at the minute . . . it is all part of the united effort. The sixteen societies represented here tonight span the field of engineering knowledge. Whether they are engaged in civil engineering, electricity, chemistry, radio or metals, their contribution can be direct and it can be far-reaching.

If you, by your skill, can contrive to save a single hour of a single worker's time, if you can save a single pound of steel, if you can find a good substitute for a single strategic material, if you can evolve workable short-cuts in conversion, if you can dig out old, idle machines and make them productive . . . then, you are doing your share of winning the war. That is your job. You are trained for it. You have the background and the experience. If each of you this day should add to that experience an unshakable will to help, and help, and to keep on helping, no matter how it hurts . . . then the war will be shorter than we anticipate.

I especially commend to the attention of those of you in transportation the unhappy fact that transport, afloat and ashore, is our greatest bottleneck. Our tank factories and our plane factories are turning out machines in numbers that would astound and dismay the dictators. Our task is to get them where they are needed by the shortest route in the shortest possible time. If one of you transportation engineers can figure out some way of increasing our transportation efficiency, and put that scheme to work, you'd be as great a national hero as the general who wins battles in the field. I urge you . . . try to help us out with this!

The rest of you, no matter what your field, can give us as great aid in other areas. There is no time now to go about pointing out what we need. There's no time to ask for individual ideas. As you evolve them out of your own intelligence and your own experience and your own imagination . . . hurry to offer them to the agency they will aid, be it railroad, or building construction, steamship or tank arsenal. Your ideas, and the ideas of a hundred and forty million other free men, your sweat, your sacrifice, your determination, combined with theirs, will lead to victory.

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PAST PRESIDENT HONORED

Arthur V. Sheridan Awarded Honorary Doctor of Engineering Degree By Manhattan College for Contributions to Engineering Profession

THE CONFERRING OF THE HONORARY DEGREE OF DOCTOR OF ENGINEERING ON PAST-PRESIDENT ARTHUR V. SHERIDAN

(From left to right) Rev. Brother Amandus Leo, Dean of Engineering, Manhattan College, His Excellency, the Most Rev. Francis J. Spellman, Archbishop of New York, (with his back to the camera, Rev. Brother A. Victor, President of Manhattan College.)

Citations Accompanying First Award of Degree By Manhattan College

The Honorable Arthur Vincent Sheridan, Commissioner of City Planning of the City of New York, whose long and successful engineering career, since studying in science at the City College of New York, in engineering at Columbia, and his attending the Ecole Nationale des Ponts et Chaussees de France, is thoroughly veiled to the uninitiated. His thirty years' record of professional achievements impels the belief that every convenience about us within the sphere of civil engineering, like the manifold highways to, in, and around New York — particularly the Bronx — is in some respect traceable to his genius. He has also been investigating possible projects, initiating new ones, and designing master plans to improve traffic and transportation conditions, to provide proper housing and health services, to make available adequate educational and recreational centers; in a word, he has during a decade been engaged upon remodeling the City according to the best prescriptions of modern science. His initiative in the application of the science of engineering is paralleled by his arduous and successful efforts to form a strong engineering organization of national scope as well as in New York State for the benefit of the profession. He is a founder and Past President of the New York State Society of Professional Engineers; Past President of the National Society of Professional Engineers. His reputation in his field has also been established by his pen; he is not only the author of numerous articles but he is now completing his sixth year as editor of The American Engineer. It is very fitting that we mark this year of jubilee of Manhattan's engineering school by celebrating the career of this prominent member of the profession in presenting him for Manhattan's honorary degree of Doctor of Engineering.

Reply from the President,

Rev. Brother A. Victor, to Citation:

Honorable Arthur V. Sheridan:

Manhattan College prides herself on having come to know and appreciate you in recent years, particularly in your long-continued and notable services in the vitally important, difficult and rapidly expanding field of engineering. You bring us to a realization that engineering is a profession, of disciplines that are most exacting; that, too, the ideal engineer incorporates into his background that broad culture and grasp of things, of men and affairs, that comes from solid training of the humanities, thus securing that poise, that insight, that leadership so well exemplified in your distinguished career. With genuine satisfaction, in this jubilee year of the School of Engineering, we confer on you, in the name of the College and at the instance of the Board of Trustees, honoris causa, and this is the first time in Manhattan's history that this degree will have been conferred — the degree of Doctor of Engineering.

I feel certain that the news of national recognition of Commissioner Arthur Sheridan's accomplishments and contributions to the advancement of our profession will be of interest to his many friends in the National Society of Professional Engineers. The awarding of this degree is more than a personal tribute as the citation refers particularly to his work as past president of the National Society and Editor of the American Engineer. Much of the progress the Society has made is directly due to his able leadership.

Therefore, I, as business manager of the American Engineer take pleasure in inserting this tribute to one of our most active members.

That this page takes the form of an insert is due to the fact that the Editor could not be persuaded to approve a personal tribute for publication in The American Engineer.

Frederick H. Zurmuhlen

BUSINESS MANAGER